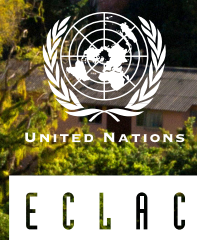# Inequality in Central America, Mexico and the Caribbean

Gap analysis and overcoming strategies

Volume 1

Sandra Huenchuan
Miguel del Castillo Negrete

Editors

UNITED NATIONS

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ECLAC

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A slash between years (e.g. 2022/2023) indicates a 12-month period falling between the two years.
Individual figures and percentages in tables may not always add up to the corresponding total because of rounding.

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Abstract

This book is part of the efforts of the subregional headquarters of the Economic Commission for Latin America and the Caribbean (ECLAC) in Mexico, to address inequality and promote sustainable development in the countries it serves. Inequality has been identified as an obstacle to sustainable development, as it limits access to opportunities, basic services, resources, and economic benefits, especially for historically excluded groups. In this regard, ECLAC proposes public policies that promote economic inclusion, income redistribution, access to education and training, social protection, and the generation of quality employment to address these inequality gaps. In addition, it stresses the importance of strengthening the role of the State in economic and social development, as well as promoting South-South cooperation to face shared challenges.

The two volumes of this book compile 16 studies carried out under the project "New narratives for rural transformation in Latin America and the Caribbean", financed by the International Fund for Agricultural Development (IFAD). The papers address different issues in which inequality is expressed in the economic, social and environmental spheres, develop methodological proposals, case analysis and recommendations, and offer proposals in various areas of development.

The results of these studies reveal that inequality manifests itself in income distribution and wealth concentration, as well as gender, generational, ethnic and geographical asymmetries, and that, despite efforts to reduce poverty, these inequalities persist and could even worsen in the post-pandemic context if timely measures are not taken, and it is crucial that States take decisions to ensure the future of their societies, overcoming persistent inequalities and moving towards sustainable development with equality.

Introduction

Miguel del Castillo Negrete

This book belongs to the project "New Narratives for Rural Transformation in Latin America and the Caribbean",[1] whose goal is to redefine the scope and limits of the classic definition of rurality by analysing the recent transformations undergone in rural areas in Latin America and the Caribbean and studying persistent structural gaps to reduce rural poverty and inequality and encourage the structural changeover of the region's middle-income countries.

The book focuses on the project's second part, structural gaps, which stymie the exercise and fulfilment of human rights. This introduction explains the book's aim by first expounding some major ideas and conclusions taken from new rurality studies published within the project.[2] It then briefly analyses the economic and social context of the countries of the subregion and, based on the analysis, introduces the concept of structural gaps. It looks next into the structural gaps in the subregion and ends with short summaries of all the chapters in this book.

As a general rule, statistics agencies set a distinction between the rural and the urban spheres according to the following criteria: The urban sphere is defined as (i) localities in the administrative centres of districts or municipalities with some degree of urbanisation (such as Costa Rica, El Salvador, Guatemala, Haiti and the Dominican Republic); (ii) a specific population density and size (for example, the urban sphere in Mexico is comprised by localities of 2,500 or more inhabitants); and (iii) a combination of both (Cuba, Honduras, Nicaragua and Panama). All other territories are considered rural (DESA, 2018).

However, rurality scholars think that this taxonomy does not properly characterize the rural space of countries. Instead, they propose continuous gradation measurements, such as the index of relative rurality (Waldorf, 2006). Therefore, the ECLAC Subregional Headquarters in Mexico built an index of relative rurality for Costa Rica, El Salvador, Mexico and Panama.3 The index was constructed according to the methodology proposed by Waldor (2006). For readers to better grasp the matter, the introduction analyses the case of Mexico.[4]

The rurality index for the country is built on four variables: (i) population, (ii) population density, (iii) the extent of the urbanized area[5] and (iv) distance to the nearest metro area with a population of at least 50 000 inhabitants. The index ranges from zero (completely urban) to one (completely rural). When classifying municipalities by the index of relative rurality, the index provides a broader and more detailed view than what is shown by the traditional dichotomic calculation made by the National Institute of Statistics and Geography (INEGI). For example, while the Institute considered that 78.6% of the population lived in urban areas (2,550 or more inhabitants), the index shows that 45.2% of the population lives in the 169 municipalities with the lowest rural values, that is, in more urban localities (see table 1).

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[1]   ECLAC-IFAD Project 2000001856.
[2]   See Pittí, Gaudin y Hess (2021); Sánchez and others (2021); Soloaga and others (2022); Soloaga, Plassot y Reyes (2022); Samper, González y Martínez (2023).
[3]   The methodology and results of the new rurality index are available [online] www.cepal.org/es/proyectos/fida-nuevas-narrativas.
[4]   See Soloaga, Plassot and Reyes (2022).
[5]   Instead of the percentage of the urban population proposed by Waldorf (2006).

Table 1
Mexico: index of relative rurality, 2020

Level	Index of relative rurality			Municipalities	Population		
	Minimum	Maximum	Average		Total	Average	Percentages
0	-	0.10	0.04	169	57 357 691	339 395	45.2
1	0.10	0.20	0.14	188	26 043 515	138 529	20.5
2	0.20	0.30	0.25	392	15 957 386	40 708	12.6
3	0.30	0.40	0.35	658	16 142 539	24 533	12.7
4	0.40	0.50	0.45	688	9 111 013	13 243	7.2
5	0.50	0.60	0.53	306	2 127 913	6 954	1.7
6	0.60	0.70	0.64	40	119 791	2 995	0.1
7	0.70	0.73	0.72	3	89 231	29 744	0.1
Total				2 444	126 949 079	51 943	100.0

Source: Prepared by the author, on the basis of Economic Commission for Latina America and the Caribbean (ECLAC), Geo-portal New Narratives [online database] geo.cepal.org/geo-fida/.
Note: Municipality data that existed in 2020.

Table 2
Mexico: index of relative rurality and poverty, 2020
(Population percentage)

Level	Extreme poverty	Poverty	Vulnerable due to deprivation	Vulnerable due to income	Not poor or vulnerable
0	4.69	35.10	25.50	10.10	29.40
1	6.29	39.20	28.10	8.67	24.10
2	12.10	54.50	27.00	5.42	13.10
3	17.40	61.70	26.60	3.69	8.08
4	21.00	65.10	25.40	2.82	6.69
5	21.70	64.80	25.60	2.88	6.69
6	9.97	47.40	33.40	4.81	14.40
7	4.11	29.40	35.00	5.86	29.70

Source: Prepared by the author, on the basis of Economic Commission for Latina America and the Caribbean (ECLAC), Geo-portal New Narratives [online database] geo.cepal.org/geo-fida/ and the National Council for the Evaluation of Social Development Policy (CONEVAL), *Pobreza a nivel municipio 2010-2020* [online] https://www.coneval.org.mx/Medicion/Paginas/Pobreza-municipio-2010-2020.aspx.
Note: Average proportions weighted by population size.

The highest levels of poverty and extreme poverty are located mid-table in municipalities with indexes of relative rurality between 0.2 and 0.6. But at the table's lower end, most rural municipalities have extreme poverty levels and numbers of non-poor and non-vulnerable population similar to more urban localities (see table 2). Heterogeneity is also within range. For instance, the three municipalities with the highest index of relative rurality (level 7), Manuel Benavides (Chihuahua), Mulegé (Baja California Sur) and Isla Mujeres (Quintana Roo), are quite different from each other.

Manuel Benavides has a very sparse population (1,225 in 2020) in a large territory (4,938 km^2). The population density is, therefore, extremely low—0.25 inhabitants per km^2. Cañón de Santa Elena, a protected natural area in the Chihuahua desert, is within its boundaries. In 2020, According to CONEVAL, 91% of its population was poor or vulnerable due to deprivation. But Mulegé, the most populated of these three municipalities (69,902 inhabitants), has a smaller proportion of the population in poverty or vulnerability (33.5% are not poor or vulnerable), and 66.3% of the territory is "ejido" communal property. Isla Mujeres is a tourist destination with the highest population density of these municipalities (19.5 inhabitants per km^2). Its poverty level is intermediate (16.5%, not poor or vulnerable).

Mexican states with the highest values for the index of relative rurality are Oaxaca (0.324), Zacatecas (0.315), Campeche (0.310), Chiapas (0.295) and Guerrero (0.292). The ranking is quite different when using the INEGI criterion for rural localities (under 2,500 inhabitants). For instance, instead of being in one of the last positions (29) according to the INEGI ranking, the index of relative rurality places Baja California Sur in ninth place. Campeche climbs from 14 to 3 and Zacatecas from 7 to 2 (see figure 1). These changes are due to the weight of population density and the extent of urbanized areas. For

example, in Baja California Sur, population density is exceptionally low (10.9 inhabitants per km^2, the lowest of all states), and its territory is vast (72,523 km).

Unfortunately, though this index helps grasp the rurality phenomenon better, it cannot be estimated from the surveys on employment, income and life conditions that the subregion's countries make. Moreover, the surveys do not count the extent of the urbanized area or the distance to the nearest 50,000 inhabitants or more metro area.[6] Thus, this book's chapters do not analyse structural gaps from the rurality level approach; this is something to add to the to-do list for future research.

Figure 1
Mexico: index of relative rurality (IRR) and rural population (INEGI), by state, 2020
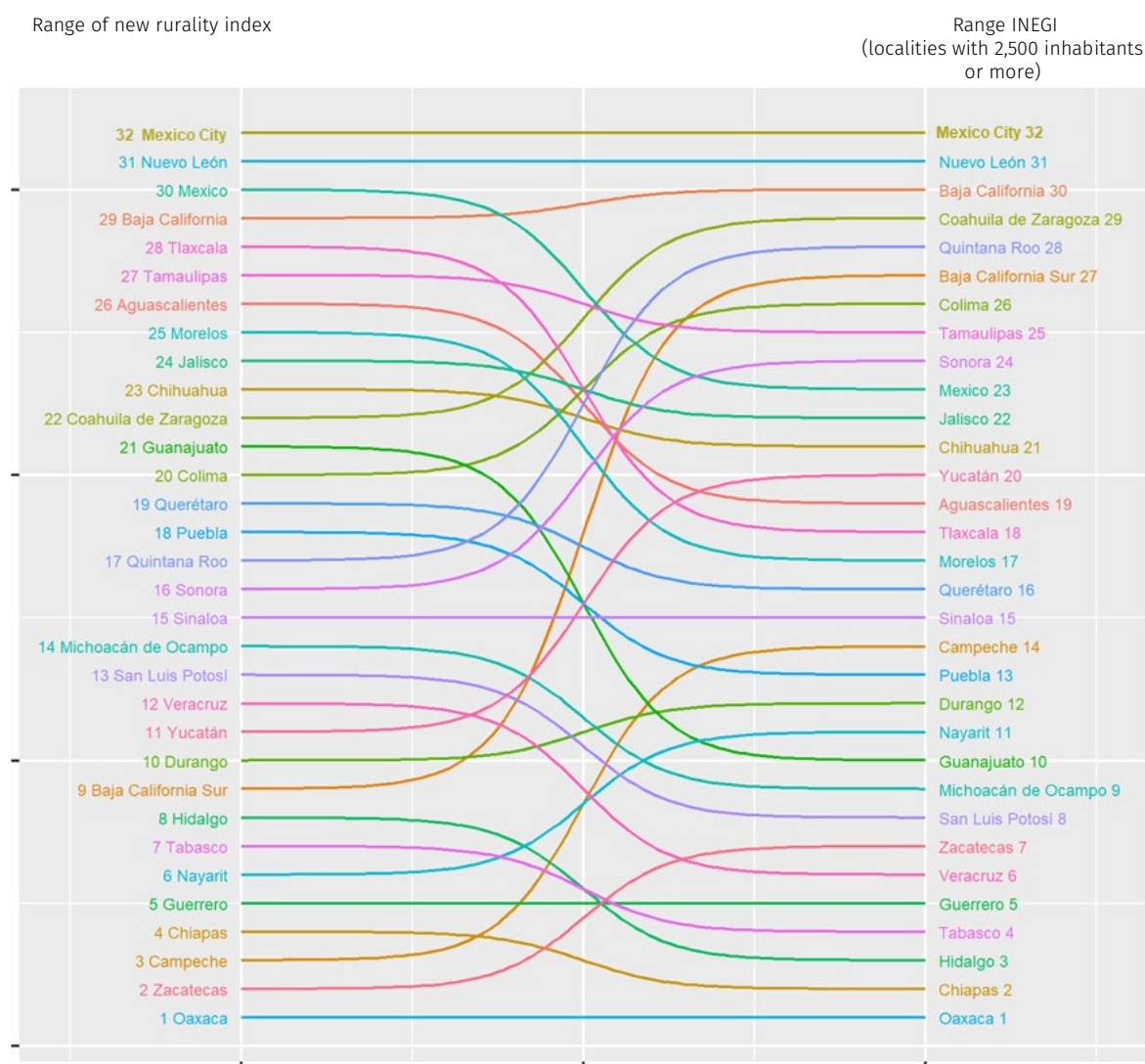
Range of new rurality index

Range INEGI
(localities with 2,500 inhabitants
or more)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), Geo-portal New Narratives [online] geo.cepal.org/geo-fida/.
Note: Average proportions weighted by population size.

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[6]   Survey samples are built according to the official definition of rurality, which often varies in each statistics agency. Therefore, the samples cannot be used to build an index of relative rurality.

It must also be considered that a good part of the rural gaps in Latin American and Caribbean countries come from the subordination of the rural realm to urban centres. This situation also exists internationally (internal and external neocolonialism). A gap that matters for development is the transfer of resources that flow from the rural realm to urban centres. This transfer also takes place from underdeveloped to more developed countries. Thus, the index of relative rurality should include certain variables to show the degree of dependence between realms.[7]

As Víctor Quintana and Martín Solís state in their contribution to this book, the theory of new rurality cannot explain the transformations experienced by the countryside [...] and cannot provide a set of rules for alternative development models. Several authors have exposed this kind of limitation. The definition of new rurality is disputed and cannot fully capture the complexities, contradictions and dynamism of rurality.[8] The meaning of "structural gap" must be defined to grasp this idea entirely. But first, this introduction will look into the economic and social context of the subregion's countries.

A.   Economic and social context

1.   Economic

Throughout history, the countries in the subregion[9] have implemented two kinds of economic policy. Each policy corresponds to a unique way of understanding the economic phenomenon. The first one was implemented from the end of World War II to the 1970s. Aiming to substitute imports, it favoured production diversification and industrialisation with government support[10] (Bielschowsky, Castro and Beteta, 2022). In those years, developmentalism thinking based on Keynesian policies was mainstream (fostered by ECLAC). However, this model faced diverse problems, many of which came from the insurrection of capital holders against the restrictions imposed on them by the model. As stated by Wolfgang Streeck, it was the revolt of the profit-dependent class (Streeck, 2017).

The second policy has been applied since the 1980s. It has meant that the subregion's countries have adopted a variant of the neoliberal economic model (based chiefly on neoclassical theory). The subregion has moved toward a market economy where the government plays a more modest role. El Salvador, Guatemala, Honduras and Nicaragua absorbed neoliberalism orthodoxly.[11] Panama did so more tersely since it had always been open to imports, and Costa Rica did not tone down the role of the State as conductor of the economy (Bielschowsky, Castro and Beteta, 2022). Bearing excessive costs in terms of poverty, inequality and precarity of employment, Mexico was orthodox in its application, more so since 1994 (when the North American Free Trade Agreement took effect). By the mid-1990s, the Dominican Republic hastened the application of neoliberal policies. In recent years, amidst social protests, Costa Rica has moved towards a more orthodox standpoint, joining the Organization for Economic Cooperation and Development (OECD).

This second period has been marked by successive world economic crises (the dot-com crisis at the end of the 1990s, the 1997 Asian crisis and the 2008 financial crisis) together with regional crises (the Latin American debt crisis of the 1980s) and local crises (the Mexican "Tequila Crisis" of 1994). During the 1980s crisis, Costa Rica and Honduras were less severely punished, in considerable measure, thanks to the geopolitical protection of the United States. However, El Salvador and Nicaragua, where armed conflict was a catalyst, went into recession for many years (Bielschowsky, Castro and Beteta, 2022). The Dominican Republic experienced unrest (the *poblada* of April 1984) when prices went up, and the country signed an agreement with the International Monetary Fund (IMF). In Mexico, the debt crisis opened the door to neoliberal policy.

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[7]   See the chapter by Víctor M. Quintana Silveyra and Martín Solís Bustamante, where the concept of new rurality is critically examined.

[8]   See chapter IX.

[9]   Cuba, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua and Panama.

[10]   Except for Panama, where production diversification did not encompass industrial investment or the diversification of primary exports (Bielschowsky, Castro and Beteta, 2022).

[11]   In addition, Nicaragua, El Salvador and Guatemala experienced severe armed conflicts.

The 1998 bank crisis hit the Mexican population hard (per capita GDP fell by 8% in 1995) as welfare levels dropped, particularly in households that had taken loans for durable goods or mortgages. It also was felt to a lesser extent by companies and financial enterprises (that obtained generous support from the Federal government). The 2008 financial crisis struck several countries in the subregion. It was especially hard on Mexico (where per capita GDP decreased 6.4% in 2009), Nicaragua (-4.7%) and Honduras (-4.5%), but was less severe in Cuba, Panama, Guatemala and Costa Rica.

In recent years, government measures against the SARS-CoV-2 pandemic brought on a strong economic contraction (see table 3). However, almost all countries have returned to pre-pandemic levels of economic activity. In Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras and Nicaragua, real GDP for 2021 stood above 2019. Recovery took longer in Mexico. However, by the fourth quarter of 2022, it stood slightly over the fourth quarter of 2019 (0.5% in real terms).[12]

Table 3
Countries in the subregion: per capita GDP, 1994-2010
(Real annual growth rate percentage)

Country	1995	2009	2010	2020	2021	2022
Costa Rica	1.7	-2.2	4.0	-5.0	7.1	3.9
Cuba	2.1	1.4	2.3	-10.8	1.7	2.4
El Salvador	3.7	-2.5	1.8	-8.0	10.8	2.2
Guatemala	2.2	-1.3	0.8	-3.2	6.5	2.6
Haiti	7.9	4.2	-6.7	-4.6	-3.0	-3.2
Honduras	1.2	-4.5	1.6	-10.4	10.8	2.5
Mexico	-8.0	-6.4	3.7	-8.7	4.1	2.4
Nicaragua	3.7	-4.7	2.9	-3.1	8.8	2.3
Panama	-0.3	-0.6	4.0	-18.9	14.3	9.4

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), "Statistics and Indicators", CEPALSTAT [online database] https://statistics.cepal.org/.

To make things worse, natural events battered several Caribbean and Central American countries of the subregion. For instance, Hurricanes Eta and Iota hit Honduras, Guatemala and Nicaragua in 2020. Meteorological events like these have pressed hard on governments' finances, which must tend to the affected population and replace damaged assets.

Nonetheless, considering economic growth and productivity improvements, the countries in the subregion can be arranged into two groups: (i) dynamic economies: Costa Rica (that has diversified and sophisticated its economy), Mexico (NAFTA and USMCA), Panama (finance and channel-related services) and the Dominican Republic (tourism and free trade zones); and (ii) less dynamic economies: Guatemala, El Salvador, Honduras and Nicaragua (Bielschowsky, Castro and Beteta, 2022).[13] This classification runs together with demographic profiles and social welfare levels, as will be seen next.

2.   Demographic and social

In 2022, the subregion's population stood at 212.7 million people, almost a third of Latin America and the Caribbean (32.2%) and more than in Western Europe, where 195.6 million people lived that same year. If it were a single nation, it would be placed ninth among the world's most populated countries, slightly under Brazil (in eighth place with 215.3 million people). Its countries are going through distinct stages of demographic transition (see figure 2).

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[12]   According to INEGI (2023).
[13]   Though the research conducted by Bielschowsky, Castro and Beteta (2022) does not include Mexico and the Dominican Republic, those countries were included because, following the authors' logic, they are the most dynamic countries.

Demographic transition is the change from high to low natality and mortality rates. In the first decades of the 20th century, the countries in the subregion created public health institutions that helped pull down mortality rates by massively vaccinating the population and introducing modern medicines. However, reproductive behaviour was unmodified, so natality rates remained high (or even increased in some countries as the chances of successful childbirth grew). This created a wide gap between the two rates.

Figure 2
Countries in the subregion: demographic transition, natality and mortality rates 1950-2050
(Rates by thousand inhabitants)
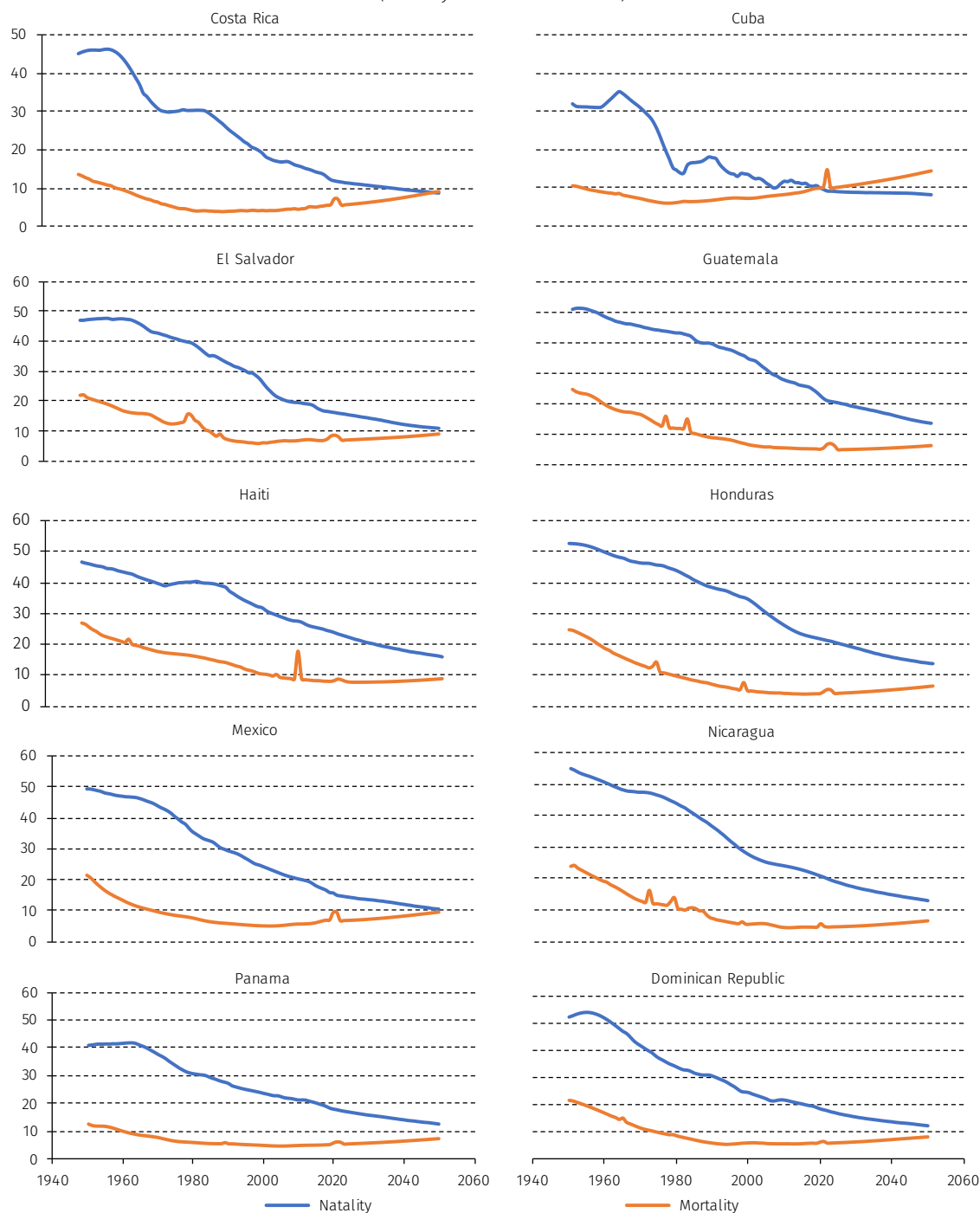
The result was steep demographic growth. For instance, Costa Rica grew by 3.7% in 1960. If it had kept that pace up, its population would have doubled in 19 years. However, natality rates decreased, so its population growth was small. After Cuba, Costa Rica has the most advanced demographic transition. Estimates say that, just before 2050, the two rates (natality and mortality) will reach the same pace (under 10 per thousand), and the country's population will peak at a historic 5.7 million people. Mexico's profile resembles Costa Rica's, with the sole difference that natality rates went down more smoothly. Therefore, between 1950 and 1970, its population grew at an average of 3% yearly, meaning it would double in 23 years. And so it did, as its population went from 27.6 million to 50.3 million.

The Dominican Republic also has the same profile. Its transition started with higher natality rates that, like in Mexico, fell on an easy slope. Therefore, it will reach its peak population in the next decade. As already mentioned, Cuba leads in demography. Its number of births has fallen steeply since 1960, so population growth is smaller (peaking at 2.1% in 1968, it gives the longest doubling time in the subregion). It is estimated that, in 2018, natality and mortality stood at the same rate, so it must have reached the historical peak two years before, in 2016, when the population stood at 11.3 million people (since social growth is negative due to migration) (see figure 2 and table 4).

Demographic transition in El Salvador, Guatemala, Honduras and Nicaragua follows a quite similar path. Due to armed conflict, the four countries had rising mortality rates in some years. Transition is more advanced in El Salvador, which has the lowest demographic growth rates since natality has dropped more steeply. By 2058, the two rates should meet each other. However, Guatemala has a wider gap, so its population will not peak until 2079, when the expected population will be 27.3 million people. Panama and Haiti will take the longest in the subregion in the demographic transition. Populations there will peak in 2086 and 2082, respectively (see figure 2 and table 4).

Table 4
Countries in the subregion: population growth indicators

Country	Maximum natural growth		Maximum population growth			Peak population number	
	Year	Rate by thousand inhabitants	Year	Annual average growth	Doubling time (Years)	Year	Thousand people
Costa Rica	1960	35.4	1960	3.65	19	2049	5 703
Cuba	1963	26.7	1963	2.14	33	2016	11 342
El Salvador	1964	30.9	1961	2.87	24	2042	6 687
Guatemala	1983	31.8	1961	2.95	24	2079	27 253
Haiti	1987	24.6	1988	2.08	34	2082	16 445
Honduras	1976	34.4	1976	3.15	22	2079	15 612
Mexico	1965	35.1	1965	3.35	21	2052	143 851
Nicaragua	1971	34.9	1970	3.25	22	2074	9 691
Panama	1963	32.5	1963	3.06	23	2086	6 271
Dominican Republic	1958	35.6	1957	3.35	21	2062	13 387

Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), *World Population Prospects 2022*, Population Division, 2022 [online] https://population.un.org/wpp/.

As a result of this transition, the age profile of the subregion's population has changed—it used to have a broad base but is now rather round in the middle (see figure 3). When the pyramid has a wide base, children constitute most of the population, and governments must invest in health (maternal care and vaccination), preschool and primary education. When the profile changes and middle-aged people make up most of the population, governments must meet the growing demand for university education and employment. As transition advances, older persons become the majority and need changes again, as gerontological care and pensions must be provided. At each stage, generations must support each other to face the challenges of demographic transition.

Figure 3
Countries of the subregion, population age profile
(Million people)
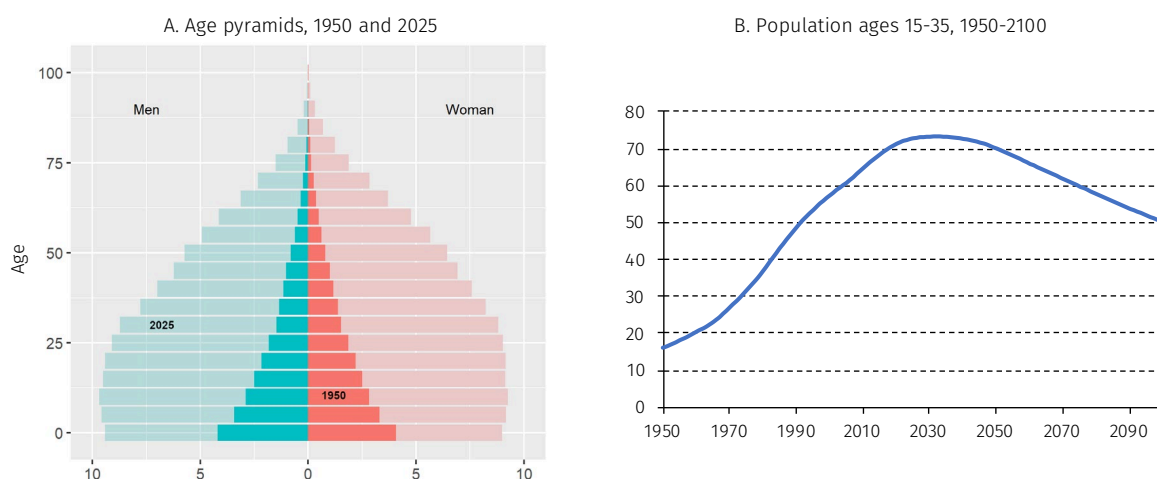
A. Age pyramids, 1950 and 2025

B. Population ages 15-35, 1950-2100

Source: Prepared by the author, on the basis of United Nations, Department of Economic and Social Affairs (DESA), *World Population Prospects 2022*, Population Division, 2022 [online] https://population.un.org/wpp/.

The 15-35-year-old population of the subregion has grown at a fast pace (see figure 3). Unfortunately, not all countries can satisfy the increasing demand for jobs, so underemployed or unemployed people have been forced to migrate from the countryside to the cities and from their own country to others, notably the United States. In 1995-2000, the urban population of Guatemala and Panama grew at an annual 3.6% on average (the highest for major cities in the subregion). In those years, Santo Domingo grew 3.2% and Tegucigalpa 2.7%. Mexico City grew the most in earlier decades. Twenty-two million people are estimated to live in its metro area (see table 5). A good part of the people who have migrated into cities live in slums. In Haiti, 49.5% of the urban population lives in shantytowns. The proportion is 37.6% for Guatemala and 31.5% for Honduras (UN-Habitat, 2021).

Table 5
Countries in the subregion: most populated cities, 1990-2025
(Million people and percentages)

Major city	Population (Million people)			Annual average growth (Percentages)	
	2000	2020	2021	1995-2000	2015-2020
San José, Costa Rica	1 032	1 202	1 400	3.3	1.5
San Salvador, El Salvador	1 062	1 086	1 106	0.2	0.1
Guatemala City, Guatemala	1 973	2 560	2 935	3.6	1.4
Tegucigalpa, Honduras	752	1 043	1 444	2.7	3.2
Port-au-Prince, Haiti	1 693	2 141	2 774	3.4	2.6
Mexico City, Mexico	18 457	20 137	21 782	1.6	0.4
Managua, Nicaragua	887	992	1 064	0.5	0.7
Panama City, Panama	1 216	1 504	1 860	3.6	2.1
Santo Domingo, Dominican Republic	1 997	2 601	3 318	3.2	2.4
La Habana, Cuba	2 186	2 143	2 140	0.3	0.2

Source: Prepared by the author, on the basis of United Nations Human Settlements Programme (UN-Habitat), *Urban Indicators Database, Housing, slums and informal settlements* [online] https://data.unhabitat.org/pages/housing-slums-and-informal-settlements.

International migration has headed chiefly to the north of the continent. In 2022, the population of Mexican origin in the United States reached 38.2 million people, about a third of whom are migrants (31.7%) who were born in Mexico and entered the country at some point. The migration flow increased in the five years between 1980 and 1984 during the debt crisis. It spurted again in 1994 because of the impact of economic openness, especially in rural areas. It peaked in 2000-2004. Since then, its trend has taken a downward turn.

A similar pattern is seen in the population of Salvadoran origin living in the United States, which numbered 2.2 million people in 2022. However, the proportion of migrants is higher (56%). The increase in 1980-1984 was caused by the armed conflict experienced in El Salvador. The population from the rest of Central America (4.4 million, 62.2% of migrants) and the Dominican Republic (2.3 million, 57.3% migrants) arrived in large numbers between 1990-1994, 2000-2004 and, most notably, 2010-2019 (see figure 4).

Figure 4
Countries in the subregion: migrants to the United States by date of entry, 2022
(Thousand persons)
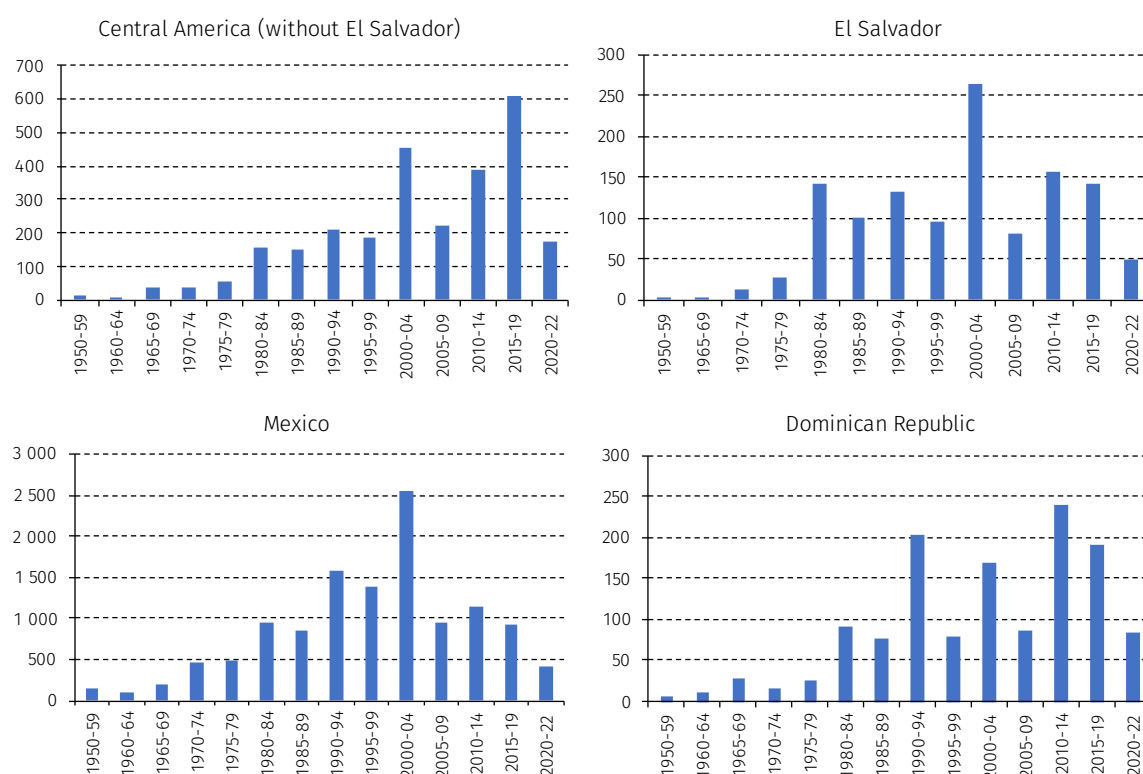
Source: Prepared by the author, on the basis of United States Census Bureau, *Current Population Survey Annual Social and Economic Supplement (ASEC)*.

Though there are plenty of considerations to the decision to migrate, the primary reason that migrants from El Salvador, Guatemala, Honduras and Nicaragua have for leaving their home countries for the United States is economic. For example, according to a survey taken by El Colegio de la Frontera Norte in 2022, 62% of the Salvadoran migrants who were interviewed on the southern Mexican border declared that meagre wages and/or poor working conditions (precarious employment) were the primary reasons they left their country. The same answer was given by 57% of Nicaraguan and 56% of Guatemalan migrants. As their reason for migrating, 49% of Hondurans said a lack of work, followed by precarious employment (29%). Violence and insecurity in the country stand in third place (13%). In lower proportions, some migrants from Honduras travel north due to family reasons or natural disasters (see figure 5).

Figure 5
Reasons for migrating to the United States according to migrants interviewed at the southern border of Mexico, 2022
(Percentage of migrants)
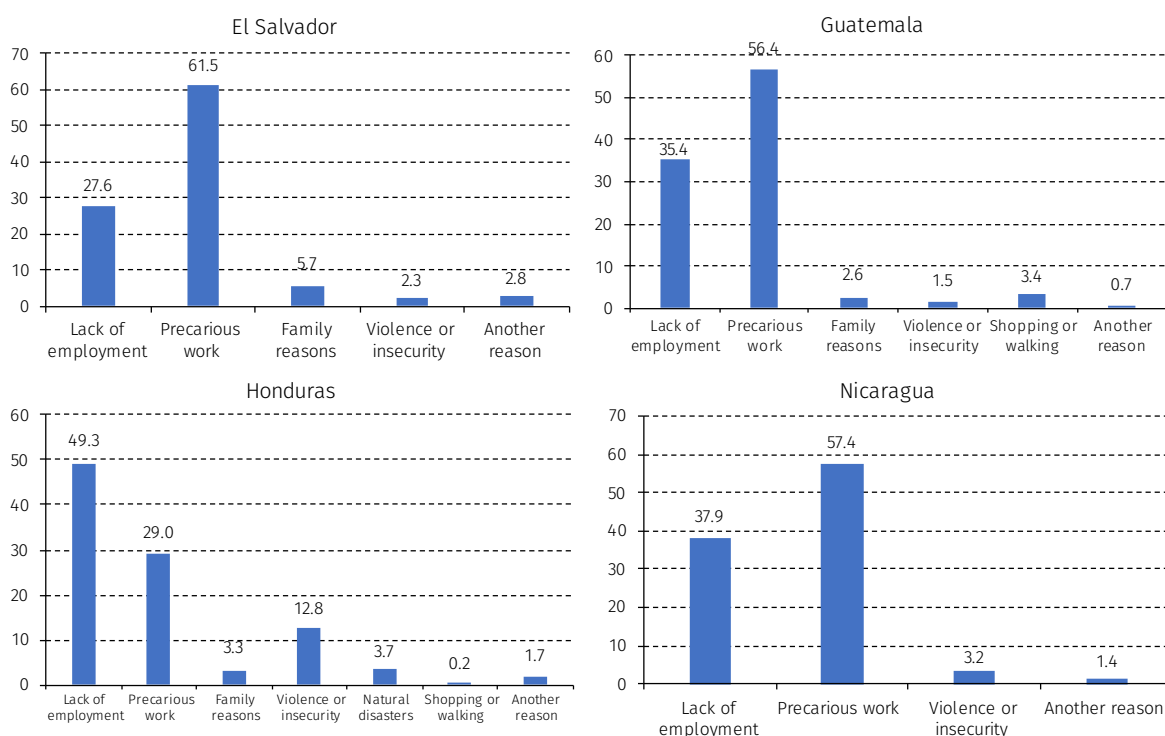
Source: Prepared by the author, on the basis of El Colegio de la Frontera Norte, Unidad de Política Migratoria, Registro e Identidad de Personas, Consejo Nacional de Población, Consejo Nacional para Prevenir la Discriminación, Secretaría del Trabajo y Previsión Social, Secretaría de Relaciones Exteriores, Secretaría de Bienestar (BIENESTAR), *Encuesta sobre Migración en la Frontera Sur de México*, www.colef.mx/emif.

An additional appeal comes from the migrant's perception of what the United States offers. For instance, despite recent increases, at the start of 2023, minimum wages in Mexico were 38.6% of those in the United States.[14] In municipalities on the northern border of Mexico, the proportion rose to 51.7% (in 2018, it was just 16.4% in both cases). In Nicaragua and El Salvador, the minimum wages were about a third (32.3%) of those in the United States. They were a little less than half (42.4%) in Guatemala and a little more (55.3%) in Honduras. However, it must be taken into consideration that these proportions were estimated using the national minimum wages of the United States. When calculated against the states where migrants tend to migrate, for example, California, the difference in earnings is even more attractive for migrant workers (see figure 6).

The paragraphs above only investigated work supply. However, demand also plays an essential role in migration. The United States needs Hispanic workers to keep production levels, as the non-Hispanic population has lower fecundity rates. While Hispanic women between 40 and 50 years old had 2.4 children on average in 2020, women of the same age who, according to the U.S. Census Bureau, were white and non-Hispanic, had an average of just 1.9 children (U.S. Census Bureau, 2020). Thus, many new jobs must be performed by the Hispanic population. For instance, between 2015 and 2022, the employed population increased by 10.2 million workers, going from 147.8 million in 2015 to 158 million in 2022. Hispanic workers filled 52% of these new positions, and 23.2% were covered by people of Mexican origin (see figure 7 and table 6). Thus, migrant workers who need better incomes and the need of employment in the United States conjoin under the attraction of higher salaries.

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[14]   Calculations of minimum wages used PPP dollars to compare purchasing power.

Figure 6
Countries in the subregion: minimum wages, 2021-2023
(Current dollars and PPP dollars)

■ Minimum wage dollars   ■ PPA minimum wage
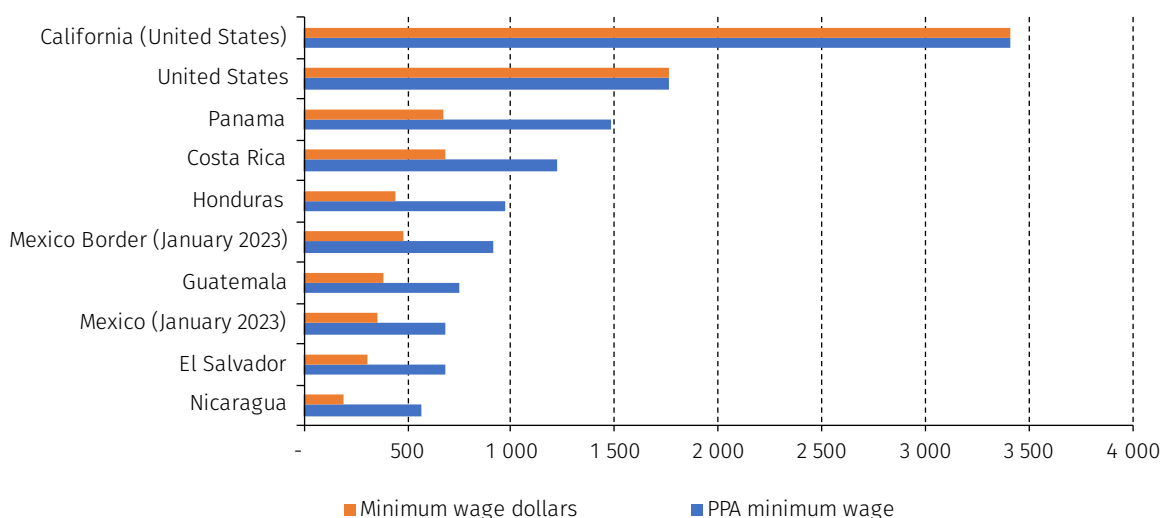
Source: Prepared by the author, on the basis of Costa Rica, Ministerio del Trabajo y Seguridad Social, *Decreto No. 42748-MTSS*; El Salvador: Ministerio del Trabajo y Previsión Social, *Diario Oficial*, 7 July 2021; Guatemala: Ministerio del Trabajo, Salario mínimos fijados por el gobierno de Guatemala [online] https://www.mintrabajo.gob.gt/images/Historia_de_Salarios_M%C3%ADnimos_ Nueva.pdf; Honduras: Secretaría de Trabajo y Seguridad Social, Dirección General de Salarios, *Tabla de salario mínimo, vigente a partir del 1 de enero del año 2021*; Mexico, Comisión Nacional de Salarios Mínimos, *Salarios Mínimos. Vigentes a partir del 1o de enero de 2021*; Nicaragua, acuerdo ministerial n°. ALTB-01-02-2021, approved on February 25, 2021, published in La Gaceta, Diario Oficial, No. 45 on March 5, 2021; and the United States: U.S. Department of Labor, Wage and Hour Division, Minimum *Wage* [online] www.dol.gov/general/topic/wages/minimumwage [date of consultation: 16 July 2019].

Figure 7
Increase of employed workers in the United States by origin, 2015-2022
(Percentage of total)
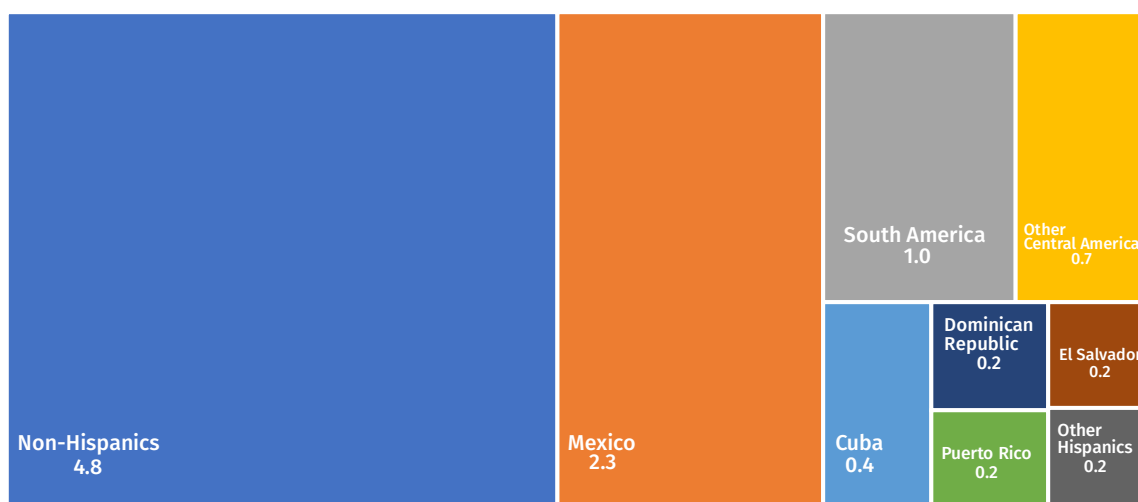
Source: Prepared by the author, on the basis of United States Census Bureau, *Current Population Survey Annual Social and Economic Supplement (ASEC)*.

Table 6
Countries in the subregion: employed workers in the United States, 2005-2022
(Thousand workers)

Country	2015	2016	2017	2018	2019	2020	2021	2022
Total								
Central America[a]	1 468	1 636	1 600	1 603	1 759	1 831	1 742	2 182
Cuba	955	1 026	1 046	1 114	1 221	1 119	1 181	1 358
El Salvador	923	1 047	1 099	1 089	1 169	1 132	1 044	1 122
Mexico	15 052	15 249	15 571	16 143	16 695	16 226	16 298	17 417
Other Hispanic	1 122	1 220	1 224	1 342	1 352	1 423	1 199	1 314
Puerto Rico	2 042	2 066	2 246	2 290	2 234	2 225	2 193	2 250
Dominican Republic	788	855	984	960	972	898	993	1 015
South America	1 546	1 765	1 880	1 965	2 020	2 191	2 009	2 544
Hispanic	23 897	24 864	25 649	26 507	27 423	27 046	26 659	29 202
Non-Hispanic	123 912	125 898	127 090	128 524	129 240	126 468	123 517	128 810
Total	147 808	150 762	152 739	155 031	156 663	153 514	150 176	158 011
Migrants								
Central America[a]	1 219	1 351	1 276	1 239	1 363	1 385	1 335	1 685
Cuba	613	637	685	751	804	746	786	864
El Salvador	730	851	855	845	905	836	776	843
Mexico	7 503	7 332	7 425	7 634	7 564	6 823	6 950	7 527
Other Hispanic	320	354	331	384	378	460	320	308
Puerto Rico	699	667	750	802	829	718	669	710
Dominican Republic	580	611	699	729	718	620	714	733
South America	1 239	1 394	1 415	1 489	1 571	1 612	1 475	1 982
Hispanic	12 904	13 197	13 436	13 872	14 133	13 200	13 026	14 651
Non-Hispanic	14 172	14 468	14 994	15 928	16 011	15 540	14 862	16 016
Total	27 076	27 665	28 430	29 800	30 144	28 740	27 888	30 666

Source: Prepared by the author, on the basis of United States Census Bureau, *Current Population Survey Annual Social and Economic Supplement (ASEC).*
[a] Excluding El Salvador.

Nonetheless, despite the growing rates of employed Hispanics, non-Hispanic workers still are the majority in absolute numbers: 128.8 million, compared to 29.2 million Hispanic workers, who comprise 18.5% of the total workforce (see table 6). If this distribution is viewed by type of occupation, the situation changes slightly. Hispanic workers rise to 43.7% of agricultural workers and 39.9% of construction workers (see figure 8). For migration to be a choice (safe, orderly and regular) and not an economic need, the structural causes that push people to leave their home countries and move abroad to make a living must be addressed. We must therefore look into the structural gaps faced by the countries in the subregion that constrain their economic development and social welfare.

Figure 8
Hispanic and non-Hispanic workers in the United States, by occupation, 2022
(Percentages)
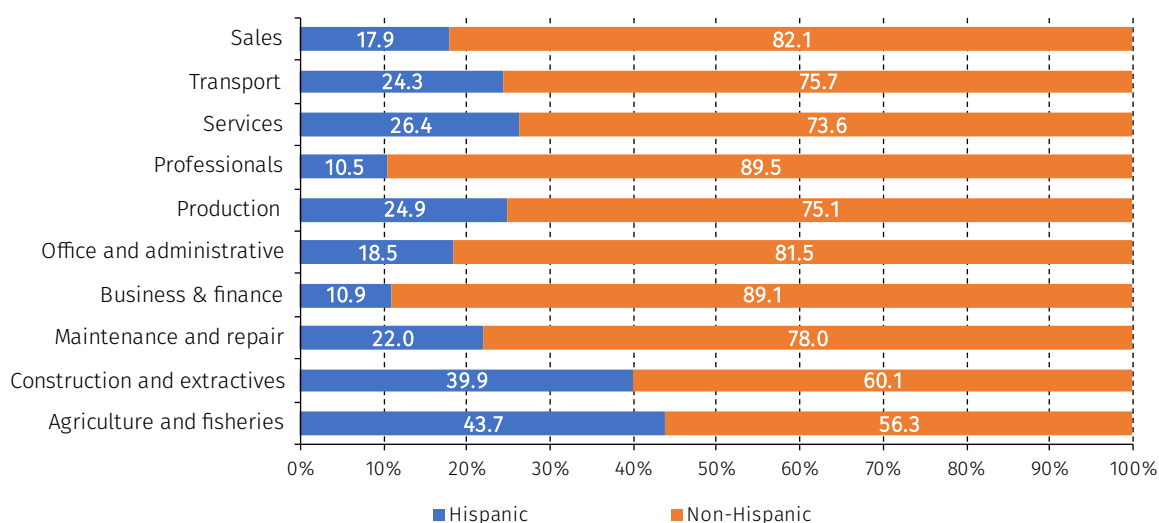
Source: Prepared by the author, on the basis of United States Census Bureau, *Current Population Survey Annual Social and Economic Supplement (ASEC)*.

B.   Structural gaps

The concept of gap has long been used by ECLAC. In the document *Time for equality: closing gaps, opening trails* (ECLAC, 2010) presented in its 30th session, ECLAC advocates for the need to move beyond the equalisation of opportunities and strive towards closing welfare gaps. Closing those gaps requires action from two sides. On the one hand, society must increase its capacity to generate income through the labour market. On the other hand, the State must increase the ability to provide and protect those who lack earnings or cannot obtain enough income in the labour market.

Since then, it has been working on the thesis that welfare gaps are decided by more than economic development. Therefore, it proposed the following welfare indicators: GDP per capita, demographic dependency rate, population in poverty, destitute population (in extreme poverty), workforce in the informal sector, tax burden, social government expenditures, pension coverage and out-of-pocket health expenses.

In *Middle-income countries: a structural-gap approach*, a later document, the ECLAC Economic Development Division expounds the thesis that the challenge of social development must not be linearly assimilated to the levels of per capita income of countries (ECLAC, 2012, p. 5). The allocation of official aid for development according to how countries were classified by per capita GDP levels presented several problems. To begin with, given that poverty is a cause and an effect of the development process, countries need to overcome their structural gaps. When nations are classified by income (low, middle or high), countries with very heterogeneous economic and social needs fall into the same group. Thus, a new approach was proposed based on the structural gaps constraining middle-income countries' development (2012, p. 6).

That document defines a structural gap as any obstacle that countries must face to achieve development. Such obstacles are either production lags, which must be surpassed with innovation and investment, or social lags. The document shows eleven gaps: (i) per capita income, (ii) inequality, (iii) poverty, (iv) investment and savings, (v) productivity and innovation, (vi) infrastructure, (vii) education, (viii) health, (ix) taxation, (x) gender and (xi) the environment. The analysis showed that countries should be grouped by adapting to different classifications: human and physical capital gaps, inequality, poverty or taxation.

Later, in 2016, the Government of Costa Rica, with support from ECLAC, prepared a study of its structural gaps (ECLAC, 2016a). That same year, the ECLAC Subregional Headquarters in Mexico published a study on productivity and structural gaps in Mexico (ECLAC, 2016d). Also in 2016, the ECLAC Headquarters in Buenos Aires, Argentina, published a methodology document (ECLAC, 2016b) and a series of studies that analysed structural gaps in the provinces of Tucumán (ECLAC, 2016c), Chaco (ECLAC, 2017), Formosa (ECLAC, 2018) and Buenos Aires (ECLAC, 2019). All those studies shared a structural-gap approach aimed at finding the primary structural gaps that constrain the sustainable development of countries.

More recently, in 2020, Yannick Gaudin and Rebeca Pareyón Noguez, from the ECLAC Subregional Headquarters in Mexico, proposed some changes in the methodology (Gaudin and Noguez Pareyón, 2022). They proposed to start from ECLAC studies on infrastructure gaps (Perrotti and Sánchez, 2011; Sánchez and others, 2017) to then look into horizontal (between countries) and vertical (within countries) gaps.[15] Two later studies on Guatemala (Rivas Valdivia and Gaudin, 2022a) and Mexico (Rivas Valdivia and Gaudin, 2022b), written by Juan Carlos Rivas and Yannick Gaudin, apply this methodology to evaluate twelve gaps.

Public policy design certainly requires all kinds of inequality (gaps) to be considered. However, this book will only consider any obstacles that countries must overcome as structural gaps to achieve social and economic development,[16] regardless of internal and external inequalities.[17] A country may have low internal (rural-urban) or external (when compared with another country) inequality in, say, the infrastructure gap, which obstructs its development. This does not mean that inequality should not be treated. Indeed, inequality is one of the gaps that hinder development. Countries must equalize to grow, as ECLAC has declared on several occasions. So then, there are production gaps and social gaps, and the former include the design of national and international policies.

This introduction expounds on the three most critical structural gaps that hinder human development in the countries of the subregion. The first gap is related to an international economic and social order designed for the benefit of hegemonic countries. This order generates the subordination of the subregion's countries. Article 28 of the Universal Declaration of Human Rights states, "Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized"(United Nations, 1948).

At the beginning of 2022, when Antonio Guterres presented his priorities as Secretary General of the United Nations to the General Assembly, he said that his second priority was the urgent need to reform the global financial system:

> "we must go into emergency mode to reform global finance. Let's tell it like it is: the global financial system is morally bankrupt. It favours the rich and punishes the poor. One of the main functions of the global financial system is to ensure stability by supporting economies through financial shocks. Yet faced with precisely such a shock–a global pandemic–it has failed the Global South [...] Many middle-income countries are ineligible for debt relief despite the surging poverty and the growing impact of the climate crisis... The divergence between developed and developing countries is becoming systemic–a recipe for instability, crisis and forced migration. These imbalances are not a bug but a feature of the global financial system. They are inbuilt and structural" (Guterres, 2022).

One way to dimension that gap is to compare gross domestic product (GDP) with national income. GDP is the sum of the value added of all goods and services produced in a country at a given moment. National income is obtained by subtracting from GDP the property income that leaves the country (primarily interests that governments pay and the dividends of enterprises) and adding compensations from abroad and property income that domestic investors gain in foreign countries. In

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[15] The authors also consider including a physical assets gap (for real estate) and gaps for ethnicity and access to public goods and services. They also propose joining income and inequality gaps. Nonetheless, the physical assets gap is an inequality gap. In its original proposal, ECLAC (2012) included the concentration of property in the inequality gap, which already incorporated income distribution. Also, the gender gap could be extended to other vulnerable groups (Indigenous Peoples and persons with disabilities), as proposed initially. The gap in access to public goods and services could blend into the infrastructure gap.

[16] Social development means the fulfilment of human rights.

[17] For instance, Costa Rica, Mexico and Panama have narrower gaps than other countries in the subregion. However, some of those gaps are structural obstacles that prevent them from fully developing. Horizontal gaps measure each country's relative levels, regardless of the obstacles to their development.

highly-developed countries, national income is greater than the value they generate because they receive considerable resources from abroad. The opposite happens in less-developed countries, whose national income is smaller than their GDP.

Except for Haiti (which receives resources from abroad), national income stands below GDP in all the subregion countries: considerable resources drain away to foreign places. For example, in 2019, the national income of Honduras and Panama was 7.6% smaller than their GDP. Costa Rica was next (5.8%), followed by El Salvador (5%) and the Dominican Republic (4.8%) (see figure 9). That same year, the central governments of the subregion spent 4.8% of GDP on education.[18] If this structural gap did not exist, several of those countries could double education spending, for instance.

The second structural gap, which derives from the first, is the subordinate role that the countries of the subregion and its rural areas play in global value chains. This may be illustrated by the innovation gaps in small coffee-growing companies in El Salvador and Guatemala, analysed by Leda Peralta Quesada, Luis Sánchez and Silvia Vilimelis in a chapter of this book. Large transnational companies from developed countries that import and consume coffee have set tariff and non-tariff barriers that make it challenging to import roasted coffee (in beans or ground) ready for final consumption. Coffee-producing countries have hence focused on strategies for primarily producing beans and exporting green produce without upgrading towards links that add more value. Unfortunately, this scheme is present in several countries of the subregion, which have no choice but to export products with low value added and import manufactured goods.

Figure 9
Countries of the subregion: national income and GDP ratio, 2019
(Percentages)
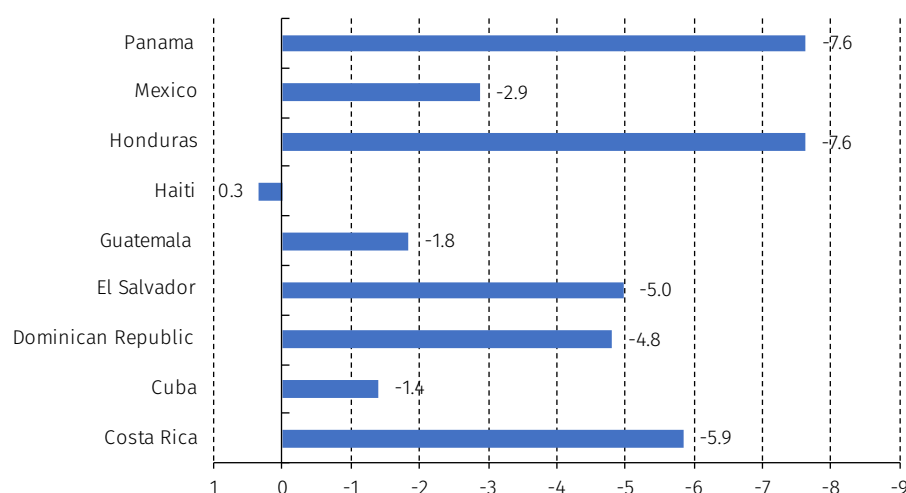
Source: Prepared by the author, on the basis of United Nations, Department of Economic and Social Affairs (DESA), National Accounts. Analysis of Main Aggregates, Statistics Division [online database] https://unstats.un.org/unsd/snaama/ [date of consultation: 6 September 2022].

Jorge Mario Martínez-Piva and Pablo Ruiz, who analyse the quality of foreign direct investment in Mexico, found that, from the demand standpoint, the Mexican economy has more value chains set with foreign entities rather than domestic ones. For example, the automotive industry, which relies primarily on external suppliers, has few domestic ties and pays wages above (25.8% more) the weighted average of all sectors but below what is paid in the oil, electricity, telecommunications and chemical manufacturing industries. Also, foreign investment flows generate low employment levels because they are capital-intensive. Therefore, there is a need for a public policy that fosters production development through quality foreign investment, that is, investments that contribute to structural change and create decent work (as defined by the International Labour Organization).

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[18] Simple average of the countries in the subregion, on the basis of CEPALSTAT, "Gasto público por función, en porcentajes del PIB" [online database] https://statistics.cepal.org.

As for the realm of rurality, Víctor Quintana and Martín Solís, in their chapter on different kinds of agriculture in the Mexican State of Chihuahua, from a historical and structural perspective that combines the global and the local to characterize new rurality, use a theoretical framework that considers the subordination of rural areas to cities and foreign countries. According to their analysis, access to irrigation water is mostly destined to highly profitable crops (cotton, yellow maize, alfalfa, chili peppers, pecan nuts, apples and peaches) grown by large individual producers and corporations in a scheme that does not strengthen food security but instead causes deep inequality and lack of well-being for farmers that depend on seasonal crops.

Finally, a third structural gap is associated with governance. In many countries of the subregion, power has been concentrated in the economic elites who handle power and manacle the State, as affirmed by Juan Alberto Fuentes, author of a chapter of this book, in a historical analysis of Guatemala's political economy (Fuentes Knight, 2022). In some of those countries, whenever a government intends to push for a public policy aimed at the social improvement of less-favoured groups, it must face intense pressure since its policy affects the interests of those power groups. The situation is analogous to what happens in other countries, such as the United States, where, as proven by Nancy MacLean in her book, *Democracy in Chains*, the oligarchy, based on James M. Buchanan's ideas on public choice, has installed a democratic arrangement by which the minority rules over the majority. Even when the majority may reach power, laws and institutions have been created to stop them from implementing the policies most people want. In other words, they have put democracy in chains (McLean, 2017).

C.   Structure of this book

Beside the introduction, this book consists of sixteen chapters divided into five sections: (i) poverty and income inequality; (ii) welfare and social protection; (iii) agriculture and energy alternatives; and (iv) investment, innovation and sustainability. The first section of this book opens with a chapter written by Ricardo Aparicio where he proposes a conceptual framework for measuring poverty gaps from a human rights approach. He adapts the Alkire-Foster method for the multidimensional measurement of poverty, making it compatible with the human rights principles of universality, indivisibility, interrelatedness and progressivity.

To explore the feasibility of applying the proposed method, the author analysed the cases of El Salvador, Mexico, Panama and the Dominican Republic. Aparicio concludes that all four countries are capable of applying the methodology. However, given the limited available information, measuring poverty under the human rights approach is somewhat constrained. Therefore, he proposes the following recommendations: (i) to deepen research in the conceptualisation and operationalisation of human rights elements: availability, accessibility and quality; (ii) to build up social information systems from a human rights approach; (iii) to ensure the participation of people in poverty situation; and (iv) to bolster the institutional mechanisms for respecting, protecting, promoting and guaranteeing human rights.

The second chapter of this section presents a summary of Julio Boltvinik's paper, which is part of *New Narratives for Rural Transformation in Latin America and the Caribbean*, a joint ECLAC and IDAF project (Boltvinik, 2023). Boltvinik studies rural and urban poverty in Mexico by applying the integrated measurement of poverty method (MMIP) developed by the author and Araceli Damián. His results show extreme poverty levels in the country, both in rural and urban areas. The author's estimations stand above CONEVAL and ECLAC estimates. Boltvinik finds a marked inequality between urban and rural areas. Extreme poverty is predominantly rural, whereas total poverty is predominantly metropolitan. In the rural world, unsatisfied basic needs are higher than income, which is the reverse in urban areas. Besides, Mexican states are widely heterogeneous. The proportion of people in poverty ranges from 91% in Chiapas to 56.4% in Nuevo León.

Thus, the author concludes that the fight against poverty cannot be focalized but must instead have a universal scope to serve people in extreme poverty and persons who live in moderate poverty too. Considering the size of the problem, the root solution is a better distribution of income and wealth, together with the fostering of economic activities. Regarding unsatisfied basic needs, the path is to set up a non-alienating and non-commodified universal welfare State. Finally, he proposes a plan to eradicate poverty based on a calculation of the deprivation mass (equivalent poor) as a starting point to estimate the cost of its eradication.

Also, in this section, Miguel Calderón presents estimates for income inequality in Costa Rica, El Salvador and Guatemala based on data from household surveys. To cut the bias caused by the underreported income of the wealthiest families, Calderón adjusts the data collected by the surveys using information from each country's systems of national accounts. The adjustments made by the author reevaluate inequality levels in the countries included in his analysis. For instance, the Gini index for the national income of Costa Rica per household (before taxes and transfers) was 0.524 before the adjustment but increased to 0.606 after being adjusted to national accounts. Such adjustment increased the proportion of the income of 10% of the wealthiest households, moving from 38.3% to 46.7%. Even though it is one of the countries in Central America with the best social conditions, the concentration level is remarkably high. In El Salvador, the differences were even greater, as the Gini index went up from 0.434 to 0.644 after adjustment. Similarly, the concentration of income of the richest decile increased from 33.4% to 48.3%. In Guatemala, the Gini index rose from 0.472 to 0.631, and after adjustment, the proportion of the national income of the 10% of the wealthiest households increased from 37.3% to 54%.

Welfare and social protection are the themes of the six chapters in the second section of this book. In the first chapter, Sandra Huenchuan study demographic change and social protection gaps in Mexico, Central America and the Spanish-speaking Caribbean with emphasis on the implications of ageing. The author examines the traditional measurements for metering the impact of old age, which is usually considered to start at 60 or 65 years old. She proposes to use, instead, the indicator of prospective old age, which measures for each country the age at which, on average, old persons still have fifteen more years to live. When using this indicator, by 2020, all the subregion countries had moved beyond the 60-year threshold to consider an individual as an older person. Huenchuan shows the social protection gaps that the subregion countries now face, manifesting as insufficient coverage, inadequate benefits or lack of accessibility. These gaps keep countries from advancing towards universal protection.

The author ends her chapter by arguing that social protection is still focused on individuals, their autonomy and personal projects, thus undermining the creation, interdependency and cohesion of families. The obstacles against vulnerable social groups (women, Indigenous persons, rural populations) make it clear that the subregion's societies are challenged by demographic change and equality of access to social protection. Thus, it is necessary to enter into social and fiscal covenants that implement policies and programmes to eradicate poverty and inequality and, thus, fulfil economic, social and cultural rights.

Carlos Barba argues that the core of the welfare gaps approach must lay in the recognition that average income is not a suitable measurement of the institutional performance of social welfare, nor is it helpful in detecting the major lags of each country or figuring out its levels of development. Following his argument, Barba makes a comparative diagnosis of Mexico, Argentina, Costa Rica and Panama, countries with similar per capita income levels but somewhat different accumulation and welfare regimes. His first goal was to show persistent welfare gaps in Mexico, contrasting the size of the country's economy with the effective access to rights and enjoyment of well-being. Barba concludes with recommendations on strategy.

The diagnosis exposes negative gaps in Mexico compared to Argentina, Costa Rica and Panama. The author strongly argues that the Mexican economy has been unable to grow steadily, has a weak health system and has social policies that do not face the employment problem. He recommends improving the quality of jobs according to ILO guidelines on decent work and implementing money transfers, which should be allocated under the human rights approach from a universalist perspective. In strategic terms, the main goal of social policy should be to reduce the gaps in the quality of access to social services.

Juan Alberto Fuentes argues that increasing government expenditure is insufficient to meet the Sustainable Development Goals in education and health because structural factors hampering expense effectiveness must be overcome. According to the author, public spending is also affected by intermediate factors, such as the family and community context and the workings of the health and education systems. Some structural elements are the sociopolitical context (legislation, policy and governance) and socioeconomic circumstances (status, ethnicity, gender, education, occupation and urban or rural residence). Fuentes finds significant gaps between students of high- and low-income families living in rural and urban areas, especially in the two secondary education cycles of Guatemala and Honduras and the second secondary cycle in El Salvador and Mexico. However, learning gaps are even more significant

and persistent for all four studied countries than coverage gaps. Though these countries have met the most critical SDG 5 targets nationally, health expenditures have had a regressive impact.

Evelyn Jacir examines the gaps in access, efficiency and educational quality in Guatemala that mainly harm the vulnerable, rural population, in a situation of poverty or the Indigenous Peoples. She applies the concept of the new rurality, linking it to the education sector to analyse the gaps from a territorial perspective, studying in detail the databases published by the Guatemalan Ministry of Education. The author intends to situate education as a central government policy in budgetary terms and with the ability to articulate with other policies due to its systemic nature. In this sense, it is necessary to exercise strong leadership and political and social commitment to education.

Enrique Valencia and Máximo Jaramillo analyse the gaps in access to health services in rural areas of Mexico. Following Luis Unikel, the authors define rural areas as localities with under 15,000 people. The context of their analysis is a new Mexican rurality where important levels of poverty and inequality persisted between 1990 and 2018. Valencia and Jaramillo used three indicators to compare rural and urban areas: potential access, effective access and quality-effective access to health. They underscore the growing commodification of services in rural areas, as just 26% of effective access to public health services is free from any out-of-pocket payments.

Finally, in this section, Sandra Huenchuan examines the incorporation of Indigenous ethnicity into the administrative records of Mexico City. As said by the author, reliable data on Indigenous ethnicity, collected regularly and transparently, are necessary to obtain the disaggregated information that Mexico needs to follow its obligations on human rights issues and its commitments on the 2030 Agenda for Sustainable Development. Huenchuan highlights Mexico City's progress in its information management procedures and its laws, regulations and institutions. The author also examines international standards. Finally, she identifies areas of opportunity and gives the following recommendations: (i) to update the diagnosis and studies on the quantification and identification of Mexico City's indigenous population, using the general and disaggregated results of the 2020 population and housing census taken by the National Institute of Statistics and Geography, (ii) to update and harmonize the legal and regulatory framework, equalising the criteria for disaggregating information by indigenous ethnicity, (iii) to favour the coordination between government agencies charged with the implementation of the new policy for data management, so they disaggregate data on indigenous ethnicity, and (iv) to determine which questions should be asked to identify and capture indigenous ethnicity in administrative records.

The two chapters in the third section of this book address agriculture and energy alternatives. In an effort to contribute to the concept of new rurality and its structural gaps, Víctor Quintana and Martín Solís analyse diverse types of agriculture in the Mexican state of Chihuahua. Through the analysis of production, economic, technological and social gaps in two different areas (irrigation and rainfall) and social groups (farmers of different social levels and ethnicities), the authors characterize the kind of rurality there. Quintana and Solís look into the sustainability of natural resources since the expanding agriculture and forestry sector has caused overexploitation of surface and underground water sources and forests, grasslands and other ecosystems. The authors also ponder the interdependency between rural and urban areas as a manifestation of the theoretical standpoint that combines global and local aspects. From a historical and structural perspective, they place Chihuahua in an excluding globalisation process. Quintana and Solís show the gaps between social classes and types of farmers and refer to social movements' struggle and resistance and social agents' survival strategies.

According to their analysis, access to irrigation water is mostly given to highly profitable crops (cotton, yellow maize, alfalfa, chilli peppers, pecan nuts, apples and peaches) in a scheme that does not strengthen food security but instead causes deep inequality and lack of well-being for peasants who raise rainfed crops. Likewise, government support intended for peasants was given to commercial producers instead. Low-income farmers who own less than two hectares did not receive any benefits. However, *Producción para el Bienestar* is a new federal programme targeting the poorest peasants raising rainfed crops. This current administration programme has a growing budget and has started to show redistributive effects in Chihuahua. However, the benefits of electric-power subsidies and financing from FIRA (a Bank of Mexico trust) are primarily aimed at large-scale producers.

The authors propose public policies designed to care for people, communities and the natural environment. These policies will help close gaps and build a fair and sustainable development model.

They are classified into three groups: (i) policies that put an end to the depletion of natural resources and create governance that absorbs the shock of climate change, (ii) redistributive justice policies for food security and sustainable agriculture that make effective the rights of persons and communities in the regions of the state, especially those of more disfavoured and excluded groups, and (iii) policies that generate and add value to agricultural production and allocate most of it on producers and their communities to improve their living conditions.

José Manuel Arroyo, Pablo José Cabrera and Mario Rubén Zelaya study access to clean fuels and technologies for cooking in Guatemala and Honduras and recommend measures to boost the use of efficient cookstoves and reduce firewood consumption. Except for Haiti, Guatemala and Honduras have the largest population using wood for cooking in Latin America and the Caribbean. These circumstances affect families' health and negatively affect education, productivity and the environment. Air pollution caused by stoves and fires that burn coal, charcoal, firewood, dung or agricultural waste in poorly ventilated places has caused hundreds of thousands of premature deaths worldwide.

Nevertheless, it seems a rather complex task in the middle- and long-term before Guatemalan and Honduran households take on clean fuels and technologies. Due to elevated levels of poverty and extreme poverty, lack of infrastructure, adequate channels to deliver energy to marginalised areas and sociocultural aspects associated with firewood consumption, the authors recommend the adoption of improved cookstoves together with the promotion of electricity and LP gas. Reducing the use of firewood and adopting clean fuels and technologies will require increasing the income of the poorest and most vulnerable families in Guatemala and Honduras and implementing subsidies on electric power and LP gas fees, among other actions. In conclusion, the authors recommend mobilising more resources towards education and health and redirecting government spending towards health and education, aimed at larger progressivity and a balance between rural and urban areas. These measures should be complemented by others, such as investing more in parental education and sanitation infrastructure and improving the management of the health and education systems.

The four chapters in the fourth section study investment, innovation and sustainability gaps. Using input-output analysis, Randolph Gilbert, Jesús Santamaría and Roberto Orozco study structural gaps in Haiti's economy. In recent years, the ECLAC Subregional Headquarters in Mexico began constructing national and regional input-output tables to analyse intersectoral productive structures. ECLAC worked with central banks and statistics agencies of Central America and the Dominican Republic in this endeavour.

Based on ECLAC matrices, the chapter had two goals. First, to describe Haiti's productive structure at the sectoral level and its final demand. Second, to produce a sectoral analysis based on the regional table. This analysis gives a broad view of (i) backward and forward productive linkages, (ii) the disaggregation of the gross and added values of production by final demand components, and (iii) the structural analysis of trade between Haiti, Central America and the Dominican Republic, as well as the analysis of the added value induced by intra-regional trade and from the rest of the world. The analysis aims at contributing to the design and monitoring of public policies in Haiti and other countries in the subregion.

The study reveals the following structural gaps in Haiti: Gross fixed capital formation stands for just 14% of the final demand in the Haitian economy. The most relevant sector is construction, with 62% of total investments, contributing 82.5% of gross value added. Also, the supply of basic services and public goods (mainly education and health) suffers from limitations to which socio-political instability (in the past two decades) and insecurity must be added. Furthermore, Haiti's tax burden is exceptionally low, standing between 7% and 10% of GDP in the last two decades. Given high informality and a limited industrial ability, the contribution made by economic sectors to taxation is minimal. Low tax collection limits the country's ability to face national demands.

Jorge Mario Martínez-Piva and Pablo Ruiz study the quality of foreign direct investment in Mexico to deepen the analysis of the effects made by this kind of investment on the country's development. Their study first describes quality foreign investment, which produces positive results in host countries. Then they analyse the geographical, sectoral, environmental and social gaps of foreign investment in Mexico since these gaps limit the positive effects it may have on the country's development. The authors define quality foreign direct investment as that which contributes to structural change (increasing the contribution of knowledge-intensive sectors and favouring the insertion in fast-growing world markets)

and satisfies Keynesian effectiveness (specialisation of the economy in dynamic sectors), Schumpeterian efficiency (technological externalities that benefit the entire system) and Nordhaus effectiveness (the environmental sustainability of an investment). The authors propose eight indicators to measure the quality of an investment: (i) foreign direct investment in new projects (greenfield plus extensions), (ii) contribution to gross product and value added, (iii) impact on exports, (iv) generation of high volumes of employment, (v) increase of sectoral productivity, (vi) positive impact on wages, (vii) creation of intersectoral linkages and (viii) environmental sustainability.

Especially noteworthy are the following findings. From the demand side the Mexican economy has more external than internal linkages. This situation is illustrated by the automotive industry, which relies primarily on external suppliers and has few domestic ties. Thus, foreign direct investment has a powerful impact on exports because purchases made abroad positively affect the generation of value added and employment. The authors conclude that none of the sub-sectors with significant foreign investments meets the requirements of quality investments. They recommend development policies integrated into a state policy aimed at productive development, seeking quality foreign investments that close production gaps.

Leda Peralta, Luis Sánchez and Silvia Vilimelis analyse the gaps in the allocation of value added faced by micro and small coffee growers in two countries of the subregion: Guatemala and El Salvador. Globally, a small number of oligopolistic enterprises (a monopoly of buyers) located in importing countries appropriate 65% to 70% of the value generated by the processing of coffee. Developed countries that import and consume coffee have raised tariff and non-tariff barriers against imports of roasted coffee (whole-bean or grounded) packaged for final consumption. Coffee-producing countries have faced this obstacle by focusing on improving the primary production of coffee beans and exporting green coffee without upgrading to links that add more value.

Searching for a way to assign more value to local producers, the authors propose the analysis of seven variables: (i) access to markets, (ii) legal aspects, (iii) diversification, (iii) financing and access to capital, (v) Institute and associativity, (vi) production and (vii) sustainability and social responsibility. After consulting with coffee growers from the two countries, the authors recommend progress in three strategic areas (associativity, financing and diversification). The cross-sectional element of their proposed strategy is digital transformation, which would boost small growers and associations to step into commercialisation.

Jennifer Alvarado and Lissette Gil analyse sustainability gaps in two tourism clusters of the Dominican Republic. Their goal was to analyse the sustainability dimensions of the country's tourism industry, to which the authors applied the 131 sustainability indicators proposed by the Global Sustainable Tourism Council. They analysed two clusters: Ciudad Colonial Santo Domingo and Puerto Plata. For each cluster, they studied long-term sustainability in four dimensions: sustainable management and environmental, sociocultural and economic sustainability. The authors collected quantitative information and interviewed key stakeholders in the sector to meet their aim. The authors used their analysis to make 25 recommendations for Puerto Plata and 23 for Ciudad Colonial Santo Domingo, intended to build a more resilient model that helps the sector recover.

Finally, Indira Romero and Jess López analyse the financial inclusion of women in rural and urban areas in the Dominican Republic. The authors conducted their study using quantitative analysis and fieldwork. Their results show that financial inclusion is decided by characteristics associated with gender, marital status and income level. Despite public policies and the efforts of financial institutions, social gender norms are an obstacle to the financial inclusion of Dominican women.

The authors recommend a set of public policies along four lines of action: (i) programmes promoting the financial inclusion of women considering gender norms and invisible barriers, (ii) identifying areas of opportunity to improve financial services and how they are publicized to create trust and remove discriminatory practices from banking and financial services, (iii) experimenting with programmes and initiatives that break historical-social gender norms and eliminate their impact on the economic empowerment and autonomy of female entrepreneurs, and (iv) creating a safe working environment in which female entrepreneurs can carry out their business activities.

Bibliography

Bielschowsky, R., Castro, M. and Beteta, H. E. (2022), *Patrones de desarrollo económico en los seis países de Centroamérica (1950-2018)*, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Boltvinik, J. (2023), "Brechas de pobreza rural en México: magnitud, evolución reciente y distribución territorial" Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

DESA (Department of Economic and Social Affairs) (2018), "World Urbanization Prospects: Data sources and statistical concepts for estimating the urban population", United Nations, Population Division [online] https://population.un.org/wup/Download/.

ECLAC (Economic Commission for Latin America and the Caribbean) (2019), "Territorio y desarrollo en la Argentina: las brechas estructurales de desarrollo en la provincia de Buenos Aires", *Project Documents* (LC/TS.2019/30), Santiago de Chile.

_____(2018), "Territorio y desarrollo en la Argentina: las brechas estructurales de desarrollo en la provincia de Formosa", *Project Documents* (LC/TS.2019/12), Santiago de Chile.

_____(2017), "Territorio y desarrollo en la Argentina: las brechas estructurales de desarrollo en la provincia del Chaco", *Project Documents* (LC/TS.2017/73), Santiago de Chile.

_____(2016a), *El enfoque de brechas estructurales: análisis del caso de Costa Rica*, Santiago de Chile.

_____(2016b), "El enfoque de brechas estructurales de desarrollo y los Objetivos de Ddesarrollo Sostenible aplicado al análisis de las provincias argentinas: documento metodológico", *serie Estudios y Perspectivas*, Buenos Aires.

_____(2016c), "Territorio y desarrollo en la Argentina: las brechas estructurales de desarrollo en la provincia de Tucumán", *Project Documents* (LC/W.721), Santiago de Chile.

_____(2016d), *Productividad y brechas estructurales en México*, Mexico City

_____(2012), *Los países de renta media. Un nuevo enfoque basado en brechas estructurales* (LC/G.2532/Rev.1), Santiago de Chile.

_____(2010), *La hora de la igualdad: brechas por cerrar, caminos por abrir*, Trigésimo tercer período de sesiones de la ECLAC, Brasilia, 30 May to 1 June.

Fuentes Knight, J. A. (2022), *La economía atrapada: gestores de poder y estado encadenado*, Guatemala, F&G Editores.

Gaudin, Y. and R. Noguez Pareyón (2022), "Brechas estructurales en América Latina y el Caribe: una perspectiva conceptual-metodológica", Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

INEGI (National Institute of Statistics and Geography) (2023), "Estimación oportuna del PIB trimestral, base 2013", Aguascalientes [online] https://www.inegi.org.mx/programas/pibo/2013/.

McLean, N. (2017), *Democracy in Chains: The Deep History of the Radical Right's Stealth Plan for America*, New York, Viking Press.

Perrotti, D. E. y R. J. Sánchez (2011), "La brecha de infraestructura en América Latina y el Caribe", *serie Recursos Naturales e Infraestructura*, No. 153, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Pittí, A., Y. Gaudin and S. Hess (2021), "Caracterización de los espacios rurales en Panamá a partir de estadísticas nacionales: enfoque social, económico y demográfico", *Project Documents* (LC/TS.2021/40-LC/MEX/TS.2021/6), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio. cepal.org/bitstream/handle/11362/46797/S2100206_es.pdf?sequence=1&isAllowed=y.

Rivas Valdivia, J. C. and Y. Gaudin (2022a), "Diagnóstico de las brechas estructurales en Guatemala: una aproximación sistémica", *Project Documents* (LC/TS.2022/198-LC/MEX/TS.2022/27), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

_____(2022b), "Diagnóstico de las brechas estructurales en México: una aproximación sistémica", *Project Documents* (LC/TS.2021/207-LC/MEX/TS.2021/26), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Samper, M., H. González and M. Martínez (2023), "Ruralidad e interacciones rural-urbanas en regiones de planificación y territorios rurales", *Project Documents*, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/bitstream/handle/11362/ 48670/S2201284_es.pdf?sequence=3&isAllowed=y.

Sánchez, C. and others (2021), "Caracterización de los espacios rurales en El Salvador a partir de estadísticas nacionales", *Project Documents* (LC/TS.2021/27; LC/MEX/TS.2021/3), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Sánchez, R. J. and others (2017), "Inversiones en infraestructura en América Latina. Tendencias, brechas y oportunidades", Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Soloaga, I. and others (2022), "Medición y caracterización de los espacios rurales a partir de estadísticas nacionales Una aplicación al caso de Panamá", *Project Documents*, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/bitstream/handle/11362/48357/S2200958_es.pdf?sequence=1&isAllowed=y.

Soloaga, I., T. Plassot and M. Reyes (2022), "Lo rural y lo urbano en México: una nueva caracterización a partir de estadísticas nacionales", *Project Documents*, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/bitstream/handle/11362/47904/S2200396_es.pdf?sequence=1&isAllowed=y.

Streeck, W. (2017), B*uying Time: The Delayed Crisis of Democratic Capitalism*, London, Verso.

U.S. Census Bureau (2020), "Current Population Survey, June 2020" [online] https://www.census.gov/data/tables/2020/demo/fertility/women-fertility.html.

UN-Habitat (2021), "Urban Indicators Database. Housing, slums and informal settlements" [online] https://data.unhabitat.org/pages/housing-slums-and-informal-settlements [date of consultation: 7 September 2021].

United Nations (1948), "Declaración Universal de Derechos del Hombre", Paris [online] https://undocs.org/es/A/RES/217(III).

Waldorf, B. S. (2006), "A continuous multi-dimensional measure of rurality: moving beyond threshold measures", *American Agricultural Economics Association. Annual Meeting*, California.

Chapter I
Human-rights-based conceptualization and measurement of the structural gap of poverty in El Salvador, Mexico, Panama and the Dominican Republic[1]

Ricardo Aparicio
David López Lira

Introduction

In recent years, poverty has undergone a considerable transformation in its conceptualization and methodology. It is now recognized that poverty is a phenomenon that affects people in many different ways, far beyond a mere lack of economic resources. However, a parallel development of the conceptualization and multidimensional measurement of poverty from the human rights viewpoint has not occurred. This research adapts the Alkire-Foster method for the multidimensional measurement of poverty, making it compatible with the human rights principles of universality, indivisibility, interrelatedness and progressivity.

This chapter has the following goals: to identify the links between poverty and human rights; to propose a reconceptualization of poverty under the human rights approach; to develop a methodological proposal that allows measuring poverty under that approach; and to analyse its feasibility of implementation in El Salvador, Mexico, Panama and the Dominican Republic. This last goal implies revising the availability of information and the technical capabilities of those countries, as well as performing an empirical measurement based on the current information. The proposed methodology allows to measure poverty from a human rights approach. It is a tool for analysis that can evaluate and monitor progress in human rights and its availability, accessibility and quality components (OACDH, 2003; CONEVAL, 2019) and help overcome structural poverty gaps.

This chapter illustrates the empirical application of the method in the countries under study. Notwithstanding, it is essential to keep working on lines of research concerning the conceptual and analytical development of poverty measures from the human rights approach. Human rights indicators must be set up in agreement with all interested actors to guarantee the social legitimacy of measurements.

Together with conceptual developments, the current debates about which human rights may be considered manifestations of poverty must be overcome. Also, sources of information must be improved, and the pertinence to merge the human rights information systems of the region's countries must be pointed out. Combining the sources of information used by household surveys with the administrative and geographical information systems that collect data on education, health and communications infrastructure is a promising line of work, not only to measure multidimensional poverty under a human rights approach but also to follow the evolution of the structural poverty gaps associated with the concept of new ruralities of the Latin American region.

A.   Conceptual framework of the poverty gap from the human-rights-based approach

Human rights are a set of prerogatives whose effective fulfilment is tied to the dignity of all human beings. They are universal, indivisible and interdependent. They must be protected, respected and promoted regardless of a person's particular circumstances, for instance, their values and interests, nationality, ethnicity, religion, sex, age or place of residence. Human rights recognise all persons' intrinsic value and dignity and the unbreakable bond between breaching those rights, the lack of human freedoms and unfulfilled capabilities that keep people from choosing the life projects they have reason to value (Nussbaum, 1997; Sen, 2005; UNDP, 2003).

Given its universal nature, human rights exist independently of positive legislation. Whilst there are several ways to protect and promote the universal fulfilment of human rights, international norms and precepts established by the United Nations system (adopted by the Member States of the United Nations Organization) commit States to establish policies and strategies that tend not only to respect and protect but also to promote and guarantee the universal realization of human rights.

1.   The human rights approach

The human rights approach is an analytical framework that aims to realize human rights comprehensively and universally. This approach, meant to promote human rights, stands on a solid legal framework derived from international law on human rights and constitutes a practical guide to the principles and rules for the development and transformation strategies of the State (Abramovich, 2006; CONEVAL, 2019; OACDH, 2006; Mancini, 2018; Morlachetti, 2010; Moser, 2004; Parra, 2009; UNICEF, 1998).

This approach stands on the idea that the liberties and dignity of the human person are the ultimate goals of political, economic and social processes. Thus, entitlement to human rights, freedoms and dignity are considered constitutive intrinsic values of the human being. The human rights approach acknowledges that all persons own inalienable human rights, all equally valuable, and thus none can be of higher priority than another. It also postulates a set of ethical, political and programmatical principles that must rule over the activities of State institutions and agents (Jahan, 2002; Cortés, 2014). The universality, indivisibility and interrelatedness principles are particularly relevant for economic, social and cultural rights. Also, key are the principles of pro-persona,[2] equality, inclusion, non-discrimination, participation and access to remedy (CESCR, 2001; Mancini, 2018; Vázquez and Serrano, 2011).

A core contribution of the human rights approach is the recognition that human rights violations result from complex political, economic and social processes that reflect asymmetrical power interactions that translate into manifest disadvantages for the population in poverty. When human rights are not observed, the people entitled to those rights must be given the opportunity to demand their fulfilment legally and to require the State to establish legal mechanisms and frameworks, including those set by international law, that effectively address and remedy those demands (IIDH, 2008).

The State plays a crucial role in this approach, which recognizes that the obligations of the State are not held only in national legislation but, primarily, in the international human rights framework. For this approach, economic, social and cultural rights are no mere programmatic aspirations. Their fulfilment demands the State to respect and protect human rights and implement actions that promote and guarantee their effective realization and the eradication of pervasive structural gaps (Maxwell and Kenway, 2000; Moser, 2004; Mancini, 2018).

The human rights approach stands on three pillars: (i) the universality and entitlement of the rights to which every person is entitled; (ii) the systemic interaction between human right holders (persons) and their guarantors (States); and (iii) the normative nucleus substantiating them, based on international law on human rights and national legislation. In its practical aspect, it guides the policies, strategies and actions intended to achieve human rights (Abramovich, 2006; Mancini, 2018).

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[2]   The pro-person principle postulates that when there are controversies between two normative prescriptions, the criterion of maximum protection of the person in terms of human rights should be applied (Abramovich, 2006; IIDH, 2008).

International organisations have pushed the human rights approach forward. This impulse has translated into a solid regulatory body that allows States that have ratified the Covenants and Treaties to orient the definition of legal guarantees that protect persons (United Nations, 1948, 1966a and 1966b; OAS, 1999) and guide them on how to measure the progress and challenges that countries face when it comes to the effective observance of human rights, particularly those of historically disadvantaged groups, such as Indigenous Peoples and rural and marginalized populations. In pursuing the full realization of human rights, this approach contemplates a profound transformation of the role played by the State, which not only must be concerned with granting constitutional recognition to human rights but also with modifying and updating its laws and planning the development and instrumentation of human rights-based public policy.

The obligation of State agencies to respect, protect, promote and guarantee human rights implies the traditional duty to respect the rights of the people who hold them and protect them from others breaching those rights, as well as the obligations and actions to promote and guarantee the exercise of human rights. In all necessary cases, the human rights approach requires the Legislative Power to align national legal frameworks with international law and to transform the judicial system so that the enforceability and justiciability of human rights are seen when someone's human rights have been breached (Mancini, 2018).

2.   Poverty and the human rights approach

Poverty has been conceived of in diverse ways, associated with deprivations and shortages that affect living conditions and make it impossible to lead a decent life. The most widespread concept sees poverty as a lack of monetary resources (Altimir, 1979; Feres and Mancero, 2015; CONEVAL, 2010, Alkire and others, 2015). The human rights approach in development strategies firmly promotes the most comprehensive expansion of human capabilities possible so that people can freely choose life projects that are valuable to them (Nussbaum, 1997; Sen, 1999; Moser, 2004; Sen, 2005).

Considering the universal search for human rights, the international development agenda stands on a world view that conjoins the realization of human rights with eradicating poverty in all its forms and manifestations (United Nations, 2015). To this end, human freedoms are also fundamental. Although all persons are entitled to rights, tension springs when the formal recognition of human rights is contrasted against their practical realization, with whether rights are seen or not, whether exercising human freedoms is possible or impossible, and whether the capabilities to do so are available or not.

The reconceptualization of poverty from a human rights approach feeds on the arguments about the systematic violation and breaching of human rights, how the liberties and capabilities of persons are affected, and the legal possibility of demanding a solution from the State. Under this approach, poverty is a denial, a breach, or an infringement of rights, which appears in the form of shortages and deprivations experienced by people whose liberties, basic capabilities and life options are being limited. Shortages and deprivation translate into precarious living conditions, compromising human life and dignity, whose redress can be needed from the State (CONEVAL, 2010 and 2019; De Schutter, 2021; Hunt and others, 2002; Koubi, 2004; INDH, 2013; Mancini, 2018; Sen, 1999 and 2005).

Since the human rights of persons cannot be associated with a single aspect of people's lives, nor can they be appropriately reflected by the lack of monetary resources to purchase goods and services, both the conception and the metrics of poverty are given a multidimensional nature by the human rights approach. Thus, not only does poverty mean a lack of access to basic goods, but also the impossibility of enjoying the satisfactions inherent to economic, social and cultural rights, such as education or health, which the State must ensure.

A triple bond is created: (i) persons have the right not to suffer poverty, (ii) State institutions and agencies guarantee that people may exercise their rights, and (iii) if this right is denied or unrealized, right-holders can demand effective access from the State institutions through established institutional and judiciary means (Jahan, 2002 and 2004). For the conceptualization and measurement of poverty and the development policies and strategies, the human rights principles of universality, interrelatedness, indivisibility and progressivity are of particular significance (United Nations, 1993; CONEVAL, 2014; Yaschine, 2018; Aparicio and Villágomez, 2020). Latin America's research tradition looks at poverty from an analytical perspective of unsatisfied needs (Feres and Mancero, 2001b; Yaschine, 2018). The rights and

the basic needs approaches represent multidimensional analytical frameworks that assume that all dimensions under study must be satisfied and met (CIDH, 2000).

The human rights approach, which promotes the universal fulfilment of human rights, goes beyond assuming a relationship created by a legal, political or social contract. It implies an essential dimension that explicitly recognizes that eradicating poverty and effectively fulfilling human rights are ethical duties. Thus, according to the human rights approach, public policies shall pursue the universal and progressive eradication of the multiple dimensions and manifestations of poverty that constrain living in dignity, exercising freedoms and forming capabilities. The human rights approach assumes that poverty originates and reproduces due to unbalanced power. However, such an unbalance can be changed and eradicated through the participation of persons and groups in poverty (Maxwell and Kenway, 2000; Mancini, 2018; De Schutter, 2021).

However, the human rights approach and other analytical perspectives consider poverty very differently. For example, the perspective of monetary poverty assumes that persons must have enough resources to buy goods and services to lead a decent life. The characteristic trait of the human rights approach is that more than having an unsatisfied need, persons are entitled to rights and can demand and require their realization from the State institutions when they cannot exercise them.

As a result, public policy goes beyond the support granted to the beneficiaries of social programmes, becoming the perspective from which the integral realization of the human rights of persons in poverty prevails. This implies that the State has a non-elective responsibility mandated by the law: it is accountable for promoting human equality, dignity, justice and freedom by showing the obligations to respect, not affect, and to protect the full exercise of human rights associated with poverty. Thus, the State is also obliged to prevent other individuals from breaching the rights of other persons.

By pursuing the universal overcoming of poverty, the State is obliged to realize and exercise human rights fully. Since this universal and integral realization depends on the level of development of the State, the human rights approach stands for a progressive overcoming of poverty that, given the non-regression principle, cannot back down from achievements previously made. Therefore, the State defines and designs public policies that oblige it to set up budget and programme priorities, with the population's participation, to effectively respond to the demand to eradicate poverty.

Poverty, viewed as the denial and breaching of human rights that create living conditions that are incompatible with human liberty and dignity, poses many political, social, economic and ethical dilemmas after comparing the entitlement to human rights (which must be universal from the viewpoint of the law) to the empirical evidence that shows that an effective realization of rights is lacking for large population segments. According to ECLAC, one-third of the population (209 million people) in Latin America and the Caribbean lived in a monetary poverty situation in 2020. The regional reality originates in and is the consequence of structural processes that become clear in their violation and lack of realization of economic, social and cultural rights, poignant inequality and structural gaps (ECLAC, 2020).

Policies that fight against poverty from the human rights approach look to generate conditions in which the rights of all persons, particularly of social groups at the greatest disadvantage, are granted. Creating the conditions for an adequate exercise of human rights implies the commitment to design public policies and strategies; mobilize human, material and financial resources; assess whether the goals are being achieved, and monitor, follow up and evaluate whether the proposed goals are being met. Public policy must therefore operate under a double mandate: (i) to generate conditions that reduce poverty and structural gaps affecting the poor population in all its forms and manifestations, and (ii) to move beyond the debate on whether public policy should be universal or focalized, because the heart of the matter lies in devising strategies that do achieve the universalization of the exercise of human rights and, thus, the reduction of inequalities and economic, social and regional gaps.

A key element of policies to overcome poverty is to produce strong institutions that can effectively enforce the participation, enforceability and justiciability principles of human rights by reducing power imbalances and ending the discrimination and exclusion of the population in poverty. The universal realization of human rights is the essence of the conceptualization of poverty from the human rights approach. Although it is possible to define priority groups that should be attended to by public policy

under the progressivity principle, the fundamental element is the responsibility of the State to guarantee the universal exercise of human rights and, thus, the eradication of all forms of poverty.

In brief, the human rights approach in policies to overcome poverty supposes, in the first place, that poverty can be named. Second, it assumes that it should and must be eradicated in all its forms and manifestations. And third, it presumes a bond between the lack of economic resources and control and the possibility of fulfilling human rights. Thus, for the human rights approach, States must play an active role in guaranteeing the effective universal realization of rights substantiated by international, national and regional legal frameworks. The State must further the participation and empowerment of the population in poverty, among others, and set up the institutional mechanisms that work towards the progressive elimination of structural poverty gaps and the processes that create and reproduce them (OACDH, 2004; Mancini, 2018).

B. Methodological framework for the measurement of poverty from the human rights approach

Any method for measuring poverty from a human rights approach must include the principles of universality, interrelatedness, indivisibility and progressivity. It must also stand on a multidimensional conception of poverty because persons can experience the denial, breaching and infringement of their human rights in many ways. According to Sen (1976), a unidimensional method for measuring poverty based on a population's income or consumption helps solve two problems: identifying and aggregating poverty. Identification makes it possible to figure out whether someone is poor, while aggregation helps generate indexes on the size and intensity of poverty at the population scale. Another aspect to be considered when studying poverty gaps is how able a method is to set apart and compare diverse population groups in different situations of poverty.

Poverty identification requires the definition of the following criteria: the purpose, or analytic space, of the measurement; the unit that will be measured and identified; the variable that will be used as an indicator of poverty; and the poverty threshold, that is, the benchmark to determine whether a person is in a situation of poverty or not (Alkire and others, 2015). In addition to analytical spaces and analysis units, a multidimensional methodology for measuring poverty must specify dimensions to be incorporated into the measurement; the specific thresholds for each dimension; the breaking point from which to determine whether someone is in multidimensional poverty or not; and finally, the relative importance that will be assigned to each dimension.

When the method for the multidimensional measurement of poverty is conceived under the human rights approach, the identification of poverty will also find which rights are to be incorporated into such measurement and the particular poverty thresholds for each of those rights. On the other hand, under the interdependence and indivisibility principles, all rights are equally important, and the infringement of one right affects the possibility of exercising all other rights. Given that it looks to define policies and strategies to overcome poverty, such a method must be able to produce disaggregated data that allow quantification of the level, prevalence, intensity and severity of poverty. The method must put numbers on the poverty gaps, the demographic weight and the contribution of the several population groups and territories, the dimensions of multidimensional poverty and the evolution of poverty (Alkire and others, 2015; CONEVAL, 2010; Yaschine, 2018; Aparicio and Villagómez, 2020).

Since the human rights approach assumes that poverty is identifiable and eradicable and that the State institutions guarantee human rights, the aggregated indicators of poverty must meet the following criteria: conceptual pertinence, that is, they must reflect the breach of a right; identification of measurement of gaps, priority attention groups and territories whose poverty can be modified by public action; and measurability of poverty indicators in terms of their validity, reliability, invariability and precision. At an aggregate scale, the multidimensional poverty method from the human rights approach must be able to simultaneously assess the progress in the eradication of poverty and the challenges that the State faces at any given moment (Gordon, 2010; Alkire and others, 2015; CONEVAL, 2018; Cortés, 2020; Nájera, 2020).

This study adapts the Alkire and Foster (AF) method to propose a particular method for measuring poverty under the human rights approach. Although the AF method stands on Sen's capabilities conceptual framework, its generality and flexibility allow it to be applied to the measurement of poverty under the human rights approach, as it meets the requirements mentioned in the above paragraph (Alkire and Foster, 2007; Alkire and Foster, 2011; Alkire and others, 2015; Sen, 1999; Sen, 2005).

The application of the AF method proposed in this chapter assumes that the multidimensional measurement of poverty under the human rights approach is performed on a population constituted by a certain number of persons "n" at a given moment and that a number of dimensions "d", rights in this case, will be considered in the measurement. For each person "i" and each dimension "j" the value of the j-nth achievement of person "i" (for example, their educational achievements is denoted by x_{ij} (i=1,…,n; j=1,…,d). An achievement matrix X is defined, with generic elements xij (all non-negative real numbers, $\mathbb{R}+$). The d-dimensional achievement vector for any person i is denoted by x_i. For any right j, x_j denotes the n-dimensional achievement vector corresponding to the right of the persons in the population.

A d-dimensional vector z is then defined as z = (z_1, z_2, …, z_d), where $z_j > 0$, to denote the vector of poverty thresholds specific to each dimension. Someone will experience an underexercised right j whenever $x_{ij} < z_j$. Vector w = (w_1, w_2,…, w_d), also d-dimensional, sets the weight or relative importance assigned to each dimension. Without loss of generality, it is assumed that each dimension is weighed by a positive real number (an element of $\mathbb{R}+$), and the sum of all weighing numbers equals d. A deprivation matrix g is also defined with elements g_{ij} where $g_{ij} = 1$ if $x_{ij} < z_j$ and $g_{ij} = 0$ when $x_{ij} \geq z_j$; in other words, matrix element g_{ij} is assigned a value of 1 when a person i has a lack associated with right j. Otherwise, it will be zero.

Each person is given a c_i value for multidimensional shortages, the weighted sum of individual shortages; in other words, $c_i = \Sigma^d_{j=1} w_j g_{ij}$. When not a single right of one person is affected, $c_i = 0$, while $c_i = d$ when that person suffers all deprivations. In the AF method, the global poverty threshold (k) sets the benchmark from which a person is identified as multidimensionally poor (0 < k <= Σw_j = d). A person will be identified as poor whenever $c_i \geq k$. In the general applications of the AF method, k may take any value on the specified range. However, there are two particular cases, known as the union criterion and the intersection criterion. According to the union criterion (k = min(w_i)), a person is considered poor when they experience at least one deprivation. In contrast, the intersection criterion means that someone will be considered poor when they suffer all deprivations simultaneously.

The identification of poverty by this method makes it possible to apply the principles of poverty measurement under a human rights approach. First, this method gives a multidimensional concept of poverty, considering that persons experience violations of their rights that go against their freedoms and dignity. Since every right is intrinsically valuable per the indivisibility principle, denying or breaching one right cannot be compensated by fulfilling another. Thus, second, in this method, the presence of deprivations defines the global rights threshold, that is, the union criterion, specific to the measurement of poverty under the human rights approach (ECLAC/UNICEF, 2010; CONEVAL, 2010; CONEVAL, 2014). Third, this method assigns the same weight to all deprivations, according to the principle of interdependence that shows that all rights are equally valuable, and no right has prevalence over another. Thus, in measuring poverty under a human rights approach $w_j = 1$.

Because of the second and third criteria, the global poverty threshold, k, equals one, and c_i stands for the number of the d deprivations associated with unsatisfied rights that a person experiences simultaneously. Other relevant element of the AF method is that it generates aggregate poverty measures among the population. Next, we will prove that this method is also proper for studying poverty gaps using the universality principle. The AF method has three aggregate measures, and together, all three are relevant for studying poverty under the human rights approach. The first of these aggregate measures is the incidence of poverty or the headcount ratio of multidimensional poverty (H); the second is A, the intensity of multidimensional poverty; and the third is M_0, the adjusted headcount ratie of multidimensional poverty.

The number of persons in the population identified as multidimensionally poor is q. Then,

$$H = \frac{q}{n}.$$

being

$$g_{ij}(k) = g_{ij} \qquad \text{if } c_i \geq k, \text{ and}$$

$$g_{ij}(k) = 0 \qquad \text{if } c_i < k.$$

then, the intensity of poverty A measures the average deprivations experienced by persons in multidimensional poverty.

$$A = \frac{1}{q} \sum_{i=1}^{n} \sum_{j=1}^{d} w_j g_{ij}(k),$$

When applying the AF method under a human rights approach, $w_j = 1$. This means that a person will be identified as poor if they suffer deprivation in some form. Thus, the adjusted headcount ratio M_0 is such that:

$$M_0 = HA = \frac{1}{n} \sum_{i=1}^{n} \sum_{j=1}^{d} g_{ij}(1),$$

which may be expressed as the ratio between the total number of deprivations that persons in multidimensional poverty experience and the number of deprivations that could be experienced by the study population, in the extreme that all persons were poor and suffered each deprivation considered by the measurement (nd). In other words, M_0 stands for the rate of deprivations that the population experiences compared to all possible deprivations.[3]

Since $k = 1$, TPRIV$_{poor}$, the total deprivations of the poor population are equal to the total deprivations experienced by the population, where PRIVMAX$_{population}$ = nd, the total number of deprivations that could be experienced if all n persons were poor and experienced all d deprivations. Thus, M_0 may also be expressed as

$$Mo = \frac{TPRIV_{poor}}{PRIVMAX_{population}}$$

According to the universality principle of human rights, the human rights approach pursues the progressive reduction and eventual eradication of all manifestations of poverty. In other words, it aspires to an adjusted headcount ratio of zero. As M_0 nears 1, there is more poverty in society. Indeed, when $M_0 = 1$, all n persons in the population experience all d deprivations. M_0 is a tool for analysis to evaluate whether the results of the policies and strategies for overcoming poverty work according to the progressivity principle, which is if they are effectively helping keep the observance of human rights from moving backwards. This is when comparing the value of M_0 over a specific period of time.

As for poverty gaps, the AF method has axiomatic properties (Alkire and Foster, 2011) that this proposal shares. Two properties are particularly relevant to studying poverty gaps under the human rights approach. A fundamental element of the approach is that it reveals poverty inequalities and the gaps that unequally affect some territories and social groups. A property of the AF method is the possibility to disaggregate the adjusted headcount ratio among different population groups, which makes it easier to measure social and regional poverty gaps and how they evolve. Another axiomatic property of this method is that it can measure each dimension's contribution to multidimensional poverty (Alkire and Foster, 2007; Alkire and Foster, 2011).

The AF method can be applied under the focus of methods that count deprivations (Alkire and others, 2015, Arakaki, 2018). However, applying the universality, indivisibility and interdependence principles of human rights has led us to particularize the poverty space from the rights framework, precisely the economic, social and cultural rights framework of reference, to

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[3] M_0 could also be interpreted as the proportion of the multidimensionally poor population when this proportion is adjusted by intensity, that is, the average deprivation experienced by persons in poverty (Alkire and Jahan, 2018).

define the individual as the unit to identify poverty, to equally weigh all rights (or dimensions) of poverty (w_j = 1), and to consider the presence of any deprivation as a global poverty threshold (k = 1).

This method is flexible enough for societies to include different conceptual, normative and empirical aspects when measuring poverty. Thus, they can choose the purpose of the measurement, the rights that will be incorporated into it, the indicators and the smallest thresholds to measure non-compliance, denial and breached rights as part of the poverty concept (Alkire and others, 2015). Value judgements will necessarily be involved when designing a specific application for this method, which poses conceptual, normative, evaluative, ethical and political challenges.

C.   Measuring poverty from the human rights approach in the countries under study

If poverty is conceived as the denial, violation and infringement of human rights associated with a lack of access and control of economic resources that constrains life quality and human dignity, which rights should be considered the hard core of the concept? In other words, which rights, when unrealized, provide unequivocal evidence of poverty? Which rights indicators and breaching thresholds should be used for empirical applications? Since there is no consensus regarding the dimensions that should be incorporated into the measurement of poverty, and not all deprivations of rights can be considered as a sign of poverty (Nussbaum, 1997; OACDH, 2004; Sen, 2005; CONEVAL, 2014; Mancini, 2018), it becomes necessary to trim down the options for analysis and choose the specific dimensions to be included when applying the method.

Given the exploratory nature of this study, three different human rights instruments were chosen to present an operative proposal of this method: the Universal Declaration of Human Rights (United Nations, 1948); the International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966b) and the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, or "Protocol of San Salvador" (OAS, 1999). Further, the rights were selected according to dimensions that are usually included as manifestations of poverty, particularly those that have been used in the multidimensional measurement of poverty in the four countries under study: El Salvador, Mexico, Panama and the Dominican Republic (CONEVAL, 2010; CONEVAL, 2014; Pettinato, 2014; PNUD, 2014; STPP and MINEC-DIGESTYC, 2015).

The method sets no limitations on the number of dimensions that may be incorporated. However, parsimony is recommended for practical applications. Almost all multidimensional measurements include health, housing, access to basic services and acceptable life standard dimensions (Santos, 2019). These dimensions, being human rights, have been incorporated in international treaties such as the International Covenant on Economic, Social and Cultural Rights and the Protocol of San Salvador (United Nations, 1966; OAS, 1999).

When revising the conceptual links between poverty and human rights for the four countries under study, we showed that Mexico and El Salvador have partially and incipiently incorporated the human rights approach into the multidimensional measurements of poverty they develop. Mexico has continued with further analytical efforts to explore the approach (Hernández Licona and others, 2018; CONEVAL, 2019). Though in different degrees, all four countries include health, education, and housing. Three had food, work and the environment, while only Panama and the Dominican Republic adopted the right to access information; these two countries developed the methodology most recently.

Our study proposes incorporating the rights to food, health, education, work, social security, housing, access to information and a healthy, clean environment into the measurement of poverty under the human rights approach. It is meant to be a first proposal that sets the grounds for exploring how to apply the method. By proposing these eight rights as the dimensions of poverty, this chapter aims to contribute to the development of a multidimensional poverty concept in which the human rights approach is the *sine qua non* element for the diagnosis, formulation, application and evaluation of public policies aimed at ensuring the integral and universal exercise of human rights.

Our study classifies and orders the essential components of the rights that constitute poverty according to the diagnosis of the human rights situation in Mexico that the Office of the High Commissioner for Human Rights performed at the beginning of this century (OACDH, 2003; Jusidman, 2020). In addition, this study also refers to the most recent conceptual framework presented in the Information System on Human Rights (SIDS) produced by CONEVAL (2019).

We have categorized three components for each right, which we propose should be incorporated into poverty measurement under the human rights approach: availability, accessibility and quality. According to SIDS, availability means the existence of the necessary preconditions to exercise a right (the means to materialize it). Accessibility means that people can access the existing means to realize a right without restrictions imposed by entry barriers. Accessibility includes physical and economic accessibility. Finally, the quality part (or subdimension) requires the adequate and satisfactory operation of the means people use to realize a right, thus guaranteeing the effective exercise of such a right (CONEVAL, 2019).

The health dimension can illustrate the above. Availability can be measured through the number of attention health units (hospitals or clinics) that provide services. Accessibility can be construed as the number of persons affiliated with the health system who are thus entitled to receive services and have physical accessibility in terms of time, distance and cost. Accessibility also considers the timeliness and effectiveness of treatment and the supply of prescribed medication and services. Under the human rights approach, when someone is deprived of any of the three elements of the right to accessibility, they are deprived of exercising that right.

From a conceptual standpoint, the indicators for each right's components must be selected to stand for an unequivocal manifestation of the violation of human rights associated with poverty when deprivation is present (OSCDH, 2004; Mancini, 2018). The principal interest of studying poverty under the human rights approach is to learn the multiplicity of rights that are denied simultaneously to someone. Thus, the method proposed here looks to include in a sole source of information all the manifestations of poverty and the variables used to measure them. Moreover, that sole source must meet the methodological requirements that make it possible to see inequalities within reflections on rurality.

Nevertheless, the individual deprivations captured in surveys should be complemented with information about the services infrastructure, markets in the communities and the quality of the services provided to individuals. For example, by linking the ID documents of surveyees with administrative records, the quality of the health and education services they receive could be known. Then it would be possible to integrate various sources of information on the exercise of rights into a single multidimensional survey on poverty that could better measure the availability, accessibility and quality components of rights. Development of such processes requires the guarantee that the integrated information is used exclusively for statistical purposes and that the right to the protection of individual data is ensured.

From an ideal perspective, the reconceptualization of poverty should spring from a collective reflection on the dimensions, variables, indicators and thresholds that the multidimensional measurement of poverty should incorporate. This implies an exhaustive design process intervened by persons and institutions who are experts on the components of rights. It is also essential to ensure the population's participation, especially that of population groups living in poverty. However, since the aim of this chapter is to analyse the feasibility of implementing the conceptualization of poverty under the human rights approach, the study takes elements of a conceptual nature while considering the information collected by the surveys currently being made. Although this choice has its limitations, restricting the analytical scope of this research makes it possible to perform an empirical approximation to the study goal and to illustrate an application of our proposed methodology to each of the four countries.[4]

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[4] When applying national and, particularly, international methodologies for multidimensional poverty, the definitions of poverty dimensions and poverty indicators are based on previously existent sources of information (which in some cases have been extended to include other poverty dimensions). This ensures the feasibility of the method but necessarily limits the possibility of incorporating all the poverty dimensions that would be conceptually desirable.

Next, we propose a set of poverty indicators and thresholds for each right and its availability, accessibility and quality components. This would be the core of a poverty measurement under the human rights approach for El Salvador, Mexico, Panama and the Dominican Republic.[5] For the eight rights, we selected several variables associated with each part. For example, for the right to food, we included the existence of sufficient amounts of food as the indicator for the availability component; the access of persons with adequate resources to purchase food as the indicator for accessibility; and finally, the variety and balance of the nutrition regime as an indicator for quality.

Regarding the right to health, the existence of health and sanitation attention centres, goods, services and programmes that are operational in sufficient numbers define the availability part. Non-discrimination and conditions for physical and economic access measure accessibility. The aptitude of diagnoses and treatments, which must be scientifically, technically and medically sound, determines quality. As for the right to education, the number of education centres and teachers within reach of students and the proportion of people who can read and write show availability. Non-discrimination and physical and economic access measure accessibility. Quality is proved when educational content's means, processes and relevance positively affect school learning and progress.

Regarding the right to work, the combination of the sufficiency of services, facilities, work equipment, mechanisms, procedures and tools necessary for work activities creates the availability indicator. This part also considers the worker-employer-State relationship, long-term unemployment, under-employment, labour rights, forced labour and child labour. The inexistence of barriers or obstacles that prevent the right to work from materializing for all people without discrimination defines accessibility. Again, unemployment and under-employment are considered, though with stricter thresholds than availability. Training and professional education are also considered. Quality is assessed from the means (facilities, goods and services) and contents through which the right is materialized whenever these meet the requirements and conditions that their function requires. Its assessment also considers payment (when higher than the median employment income), work stability and work benefits.

The right to social security considers indicators for three sociodemographic groups: (i) people who contribute to a pensions fund, (ii) people in retirement who receive a pension and (iii) people who, being permanently or temporarily out of work, are unable to perform a remunerative activity and must receive a pension. Availability is decided by the number of measures, actions and programmes aimed at universal social security. Non-discriminated physical and economic access shows accessibility, while the existence of sufficient and prompt benefits measures quality.

Known indicators measure the components of the right to housing because their availability thresholds are less stringent and consider fewer housing factors, yet their criteria for considering accessibility and quality are comprehensive. Thus, availability refers to the existence of minimal conditions for the materialization of the right, including the materials used to build a house and water and sewage utilities. Accessibility implies that the means through which the right to housing is materialized are within reach of all persons, at least in a physical, economic and legal sense. This part includes building materials, clean water, sewage and electricity. Quality is given when each house's elements meet the minimum quality standards. The criteria used for accessibility also include crowding.

The realization of the right to access information implies that all the conditions for its fulfilment are met. Availability ensues when the minimal conditions for exercising the right are present, and a household can access a computer, tablet, smartphone or another device for accessing the internet.[6] Whether or not a home is within an area with internet service suppliers is also evaluated. The accessibility of the right to information is measured by the capacity of physical and economic access: whether a home has any access to an internet connection or whether the people who live there have internet access, at least once a week, to work, study, entertain themselves or perform other activities. The quality part is met when the right materializes adequately, and the house has the physical means to provide reliable access to the internet surely and uninterruptedly.

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[5]   Aparicio (2023) includes a detailed description of how the variables of each part of rights are comprised.

[6]   A proxy for availability was considered in this case because although an electronic device is necessary to use the internet, it is not a sufficient condition. A computer is a physical infrastructure, and if there is no internet connection, then information cannot be exchanged between people, or it cannot be accessed.

The right to a clean, healthy environment is unfulfilled when the minimal requirements for exercising the right are not being met, such as when a dwelling is in a space that has been damaged by floods, drought, landslides, strong winds or water currents (during the preceding year), or when it is exposed to damage caused by landslides. The right is also unfulfilled when the household members cannot go out at night, let their children go out to play, leave their homes unwatched, set up a business or walk freely around their neighbourhood because it is unsafe.

As with other rights, its accessibility is measured by non-discriminated physical and economic access. In a natural disaster, it is measured by the ability to recover property through insurance. Quality is present when the right suitably materializes, including when the circumstances around a household are such that all its member can perform their activities without fear of insecurity or of losing their property because of a natural disaster.[7]

Given the indivisibility principle, in the human rights approach, the denial and breach of any part of any right are considered the unfulfilled exercise of the right. Thus, when measuring poverty under the human rights approach, all indicators should be balanced, and their design should include all the components of the different rights. This kind of design will allow the assessment of the reliability and validity of the method to measure poverty.

D.   Feasibility of measurements

This section presents the operative construction of the indicators mentioned in the last section for the rights to food, health, education, work, social security, housing, access to information and a clean, healthy environment. Only for El Salvador was it possible to generate one indicator, however insufficient, for each right. We can thus view how the indicators were developed. This chapter will also explain how indicators were built for Mexico, Panama and the Dominican Republic. However, none of those countries had the information necessary to produce a clean and healthy environment indicator. For Panama and the Dominican Republic, generating the indicators related to the right to food was not possible.

Following the abovementioned criteria, we endeavoured to generate the indicators as homogeneously as possible. Nevertheless, there are considerable differences between the information collected for each country because questions concerning rights are different, the answers are codified and aggregated differently, and the same information is not gathered.

Although the consistency and uniformity of indicators and thresholds were kept whenever possible, the presented differences follow the restrictions of the information itself. Ideally, a homogeneous source of information to measure multidimensional poverty from a human rights approach, including parameters and activities, should exist in all countries. However, the reality is that current information comes from surveys that serve their own ends and that widely differ among countries. Therefore, given the existing information, the indicators presented next are an effort to produce the best possible indicators.

Following the indivisibility and interdependence principles, the general criterion to generate the deprivation indicators for each part of every right is to consider that a person is deprived of that component when the exercise of a right is faulty, according to any of the indicators used to build the component. A person is deprived of a right if something is missing from any of the three components. Finally, someone will be classified as in poverty if at least one of their rights is kept away from them.

The number of available observations was kept from falling too much by considering that a person is not deprived if there is no information about a particular part of a right; this is a strong assumption that constrains the scope of this work. In future measurements of poverty under the human rights approach, it should be possible to leave this assumption behind. We propose poverty indicators and thresholds based on the human rights' conceptual framework and its availability, accessibility and quality components, adapted to produce an operative poverty measurement. For this purpose, theoretical and conceptual elements were combined with the specific information collected by surveys in the four countries used for this study.

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[7]   The annex contains a table with the variables specified for the availability, accessibility and quality components of each of the eight human rights.

This analytical approach illustrates how to apply and implement the measurement of poverty under the human rights approach in the Latin American region, despite the need for more information available from the surveys, which limits the measurement. For example, we could not collect information about the right to food for Panama and the Dominican Republic, so we could not estimate any of that right's components. The data for El Salvador and Mexico came from the Latin American and Caribbean Food Security Scale (ELCSA). The indicators for each of the right's components were created from the questions of the Scale, which was designed as a low-cost analytical instrument solid enough to measure households' access to food but no more.

Something similar may be the case for other rights. The information from the available surveys only captures some of the constitutive components of poverty or the structural gaps in the four countries. Given the current information, measuring poverty under the human rights approach is not possible. Therefore, we recommend developing interrelated lines of research to (i) delve deeper into the conceptualization and operationalization of the availability, accessibility and quality components of the rights constituting poverty; (ii) strengthen a social information system that works under the human rights approach; (iii) guarantee the participation of the population, specifically of the population living in poverty, when it comes to defining the methodology for measuring poverty under the human rights approach; and (iv) progressively fortify the institutional mechanisms to respect, protect, promote and guarantee human rights, particularly those that constitute poverty if lacking.

E.   Results

This section describes the results of the proposed poverty measurement under the human rights approach for each of the four countries under study. The prevalence of deprivation of each right incorporated into the measurement is explained first. The previously described fundamental indicators are presented next. The indicators are (i) the headcount ratio, that is, the proportion of the population in poverty (H); (ii) the intensity of poverty (A) and (iii) the adjusted headcount ratio (M_0).[8]

Since this study is primarily concerned with finding structural poverty gaps in rural places, the indicators are analysed according to where the population lives. Information on the availability of goods and services and access to markets is needed to properly analyse poverty in rural environments. Such information, gathered by questionnaires made in the community context, was unavailable when conducting this study.

In El Salvador, most of the population experiences deprivation associated with inadequate housing and lack of access to information. According to the obtained estimates, deprivations related to the rights to work, the environment, food and health appear in little less than half the population. Social security and work rights were the two least prevalent poverty dimensions. Even when the latter deprivation is the least frequent, one out of every four persons living in El Salvador experiences it.

Considering all the information on the deprivation of rights, we saw that, in 2020, practically the entire Salvadorian population (99.96% according to the headcount ratio) experienced the violation of at least one of the eight rights included in the measurement, whether they lived in urban or rural environments. The adjusted headcount ratio is the most important indicator in this method because it reflects the proportion of poverty-related rights that cannot be exercised compared to the total number of deprivations that may be experienced in El Salvador if the entire population were to suffer all eight deprivations. At the national level, this proportion is 54.5%; for urban and rural areas, it is 52.5% and 57.8%, respectively.

For Mexico, deprivation of rights associated with poverty in 2020 was present in one-fourth to three-fourths of the population. The two dimensions where deprivation was felt less were related to education and work. For other rights, more than half of the population experienced some deprivation: food (55%), social security (68%) and access to information (70%). As in El Salvador, deprivations associated with the unrealized right to housing were the most prevalent (76%). In the case of Mexico, obtaining estimations about the environment was not possible.

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[8]   How the rights and their components were made operational for the four countries appears in Aparicio (2023). That paper includes calculations to make it easier to replicate its results.

Most of Mexico's population lives in poverty because they are prevented from exercising at least one of the seven rights incorporated into this study: 95.9% and 99.6% in rural and urban settings, respectively. When combining the incidence indicator with the indicator for poverty intensity, it was observed that the population in urban areas experiences little less than half (48.5%) of all possible deprivations of human rights associated with poverty. In rural areas, this proportion reaches 64.1%.

As for Panama, we could collect information on six rights only: education, health, work, social security, housing and access to information. About one-third of the population experiences denial of the rights to health (36.9%) and social security (35.3%). The two rights on which more progress has been made are the rights to education and work. Denial of those rights stands at 16.8% and 21.4%, respectively. In contrast, denial of the right to housing is practically universal (95.9%). Finally, the right to access information is denied to seven out of every ten inhabitants.

Given the very high denial of the right to adequate housing, 98.7% of the Panamanian population is denied at least one of the six rights. This is the case for all persons interviewed in rural areas and 98.1% in urban areas. In Panama, 46.3% of the total possible deprivations are experienced: 41.2% in urban zones and 56.1% in rural areas. As in Panama, the only information we could find on the Dominican Republic concerned the rights to food and a clean environment. The keenest deprivation is the lack of access to information experienced by five out of six inhabitants. Two out of every three persons suffer from a lack of housing, and lack of social security appears in one out of two. A third of the population experiences deprivation of education. Even for the less prevalent deprivations associated with the right to health (22.7%) and to work (17.5%), almost a fifth of the population of the Dominican Republic experiences deprivation.

As in other countries, practically the entire population experiences the poverty headcount ratio (96.7%). Though slightly larger in rural areas, this indicator has no differences. Likewise, the adjusted headcount ratio (M_0) does not show considerable differences in the proportion of deprivation of rights according to place of residence. The limitations of the information available from surveys restrict an adequate definition of the rights' components; thus, they hamper the integral application of the measurement of poverty under the human rights approach. However, despite these limitations, our results illustrate that the approach and the method are robust when measuring, assessing and monitoring the incidence and intensity of poverty and how these two combine in the adjusted headcount ratio (M_0).

Regarding the results, the four countries under study showed a high level of infringement of at least one right. In other words, they displayed the empirical manifestation of at least one poverty dimension. Though the situation is more evident in rural areas, it also occurs among urban populations. It is likely that a high proportion of the Latin American population experiences at least one of the multiple deprivations of poverty, as shown in practice by the official multidimensional measurements of poverty made in El Salvador, Mexico and the Dominican Republic in 2020 and in Panama in 2019. However, the increased incidence of poverty shown by this poverty measurement may be strongly influenced by how the components for each right are made operational, which is one of the major limitations of this research.

F.   Conclusions

The important acknowledgement that poverty is a multidimensional phenomenon that cannot be conceived as mere lack of money resources has not progressed in parallel to the conceptualization and measurement of poverty under the human rights approach. Therefore, it is relevant to propose a new conceptualization and definition of poverty from this perspective. This must be accomplished using a poverty-measuring methodology that is compatible with human rights principles, thus generating poverty indicators that could be used to design and evaluate public policies. It is not feasible for the proposal to materialize in the countries under study in the short term. El Salvador, Mexico, Panama and the Dominican Republic, though possessing ample technical and operative capabilities, currently do not have the information on human rights or on its availability, accessibility and quality components that would be necessary to do so. Nevertheless, these countries' statistics agencies have the capacity to generate this kind of information.

Striving to produce an approximation as close as possible to what would be ideal, the methodology for measuring poverty under the human rights approach has been applied using the information available for each country. For the four countries under study, the results show that the denial of at least one human right is practically universal. Although poverty is more acute in rural areas, it is also highly prevalent in urban zones. By combining the incidence and intensity of poverty, we found that people live with half of the rights constituting poverty being unfulfilled. Also, this proportion is relatively homogeneous in the four analysed countries.

These results must be analysed with extreme caution because there are apparent discrepancies between what would be ideal to find and what is feasible to construct at this time from the available information. In this sense, a key consideration concerns the structural poverty gaps associated with the rural sphere. As it is, this study could only consider the highly limited traditional concepts of rural and urban areas, defined by the number of people living in each. The measurement of poverty under a human rights approach requires the conception and exploration of a research agenda that involves more robust information and the institutionalization of the concept of poverty under the human rights approach.

First, it is necessary to conceptualize and better measure the indicators for the availability, accessibility and quality of the rights that constitute poverty. This line would allow researchers to transcend the limits of the available information to go deeper into the empirical measurement of the components of all eight rights and into the reflection of the operative variables, indicators and thresholds they use. Identifying all these components would require the assessment of the existence of public food markets, medical care facilities, schools and universities, workplaces and housing markets, to mention a few. Identifying physical and economic elements barring access and obstacles stemming from social discrimination and exclusion would also be necessary. Finally, it would also require incorporating factors such as the timeliness and effectiveness of interventions and whether these are acceptable for the population and solve their needs. To ensure that the methodology for measuring poverty is reliable and valid, at least two indicators of the three components of each right should be incorporated. However, for reasons of parsimony, the number of indicators should be kept as low as required to produce a balanced design of the different rights and their availability, accessibility and quality components.

Second, the human rights approach demands that a social information system be developed and bolstered. This system should include sources of information other than surveys and thus combine survey data with administrative records that reveal the location of health and education centres and food and work markets. Then it would be possible to rely on more precise figures on infrastructure and, hence, on the availability and accessibility of goods and service markets for the rural population. Third, the human rights approach requires the participation of society, particularly of the population that lives in poverty, because their human rights are unrealized. This line of research must help each country to reach a consensus on the rights, variables, indicators and thresholds to use, as they did when developing a multidimensional measurement of poverty.

If this process is to legitimately represent the diversity of opinions within society, expert committees formed by State representatives are required. These committees would guarantee the exercise of a right and manage the national statistical agencies that measure poverty. They would also ensure the social participation of the poor population by conducting qualitative studies and surveys inquiring about poverty-related rights and their components of availability, accessibility and quality. Fourth and last, future research should contemplate relevant elements for ensuring the full exercise of human rights and transcend measuring and monitoring poverty and its dimensions. These elements include, but are not limited to, the institutional mechanisms that favour access to justice when human rights are breached, which implies identifying the State institutions charged with granting the full exercise of human rights, the eradication of social exclusion and the reduction of inequality, discriminatory practices and stigmatization of the population in poverty. This last line of research is vital since it goes beyond the method for measuring poverty and provides the essence for overcoming the structural poverty gaps from the human rights perspective.

Bibliography

Abramovich, V. (2006), "Una aproximación al enfoque de derechos en las estrategias y políticas de desarrollo", *Revista de la CEPAL*, No. 88, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April.

Alkire, S. y J. Foster (2011), "Counting and Multidimensional Poverty Measurement", *Journal of Public Economics*, No. 95, University of Oxford, August.

⎯⎯⎯(2008), "Counting and multidimensional poverty measurement", *OPHI Working Paper Series*, No. 7, University of Oxford, January.

Alkire, S. and S. Jahan (2018), "The new global MPI 2018: aligning with the Sustainable Development Goals", *HDRO Occasional Paper,* New York, United Nations Development Programme (UNDP), September.

Alkire S. and others (2015*), Multidimensional Poverty Measurement and Analysis*, Oxford, Oxford University Press.

Altimir, O. (1979), *La dimensión de la pobreza en América Latina* (E/CEPAL/L.180), Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Aparicio, R. (2023), "Conceptualización y medición de la brecha estructural de pobreza desde el enfoque de derechos en El Salvador, México, Panamá y República Dominicana", Mexico, unpublished.

Aparicio, R. y P. Villagómez (2020), "Reflexiones sobre la metodología de medición multidimensional de la pobreza en México a una década de su instrumentación", *Medición multidimensional de la pobreza en México,* F. Cortés (coord.), Mexico, Latin American Faculty of Social Sciences (FLACSO).

Arakaki, A. (2018), "Revisión de las metodologías de estimación de la pobreza en Argentina: aportes para el debate", *Revista Latinoamericana de Metodología de las Ciencias Sociales*, vol. 8, No.1 [online] https://doi.org/10.24215/18537863e038.

CESCR (Committee on Economic, Social and Cultural Rights) (2001), *Cuestiones sustantivas que se plantean en la aplicación del Pacto Internacional de Derechos Económicos, Sociales y Culturales*, Geneva, United Nations.

CIDH (Comisión Interamericana de Derechos Humanos) (2000), *Tercer informe sobre la situación de los derechos humanos en Paraguay*, Washington, D.C.

CONEVAL (National Council for the Evaluation of Social Development Policy) (2019), *Sistema de Información de Derechos Sociales (SIDS): hacia una medición del estado de desarrollo*, Mexico.

⎯⎯⎯(2018), *Estudio diagnóstico del derecho a la educación 2018*, Mexico City [online] https://www.coneval.org.mx/Evaluacion/IEPSM/Documents/Derechos_Sociales/Estudio_Diag_Edu_2018.pdf [date of consultation: 20 October 2021].

⎯⎯⎯(2014), *Metodología para la medición multidimensional de la pobreza en México*, Ed. México.

⎯⎯⎯(2010), *Metodología para la medición multidimensional de la pobreza en México*, Mexico.

Cortés, F. (2020), *Medición multidimensional de la pobreza en México*, Mexico, Latin American Faculty of Social Sciences (FLACSO).

De Schutter, O. (2021), "A human rights-based approach to measuring poverty", *Research Handbook on Human Rights and Poverty*, R. Kolb and G. Gaggioli (eds.), Cheltelham, Edward Elgar Publishing.

ECLAC (Economic Commission for Latin America and the Caribbean) (2020), *Panorama Social de América Latina*, (LC/PUB.2021/2-P/Rev.1), Santiago de Chile, January.

ECLAC/UNICEF (Economic Commission for Latin America and the Caribbean/United Nations Children's Fund) (2010), *Pobreza infantil en América Latina y el Caribe*, Santiago de Chile, December.

Feres, J. and X. Mancero (2001a), "Enfoques para la medición de la pobreza: breve revisión de la literatura", *serie Estudios Estadísticos y Prospectivos,* No. 4, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

⎯⎯⎯(2001b), "El método de las necesidades básicas insatisfechas y sus aplicaciones en América Latina"*, serie Estudios Estadísticos y Prospectivos,* No. 7, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Gaudin, Y. and N. Pareyón (2020), "Brechas estructurales en América Latina y el Caribe: una perspectiva conceptual-metodológica", *Project Documents* (LC/TS.2020/139-LC/MEX/TS.2020/36), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Gordon, D. (2010), "Metodología de medición multidimensional de la pobreza a partir del concepto de privación relativa", *La medición de la pobreza multidimensional en México,* M. Mora (ed.), Mexico, El Colegio de México/National Council for the Evaluation of Social Development Policy (CONEVAL).

Hernández-Licona, G., R. Aparicio and A. Ruiz (2018), "Medición de la pobreza con un enfoque de derechos en México", *Pobreza y derechos sociales en México*, G. Hernández-Licona, R. Aparicio and F. Mancini (coords.), Mexico, National Council for the Evaluation of Social Development Policy (CONEVAL)/National Autonomous University of Mexico (UNAM)-Instituto de Investigaciones Sociales (IIS).

Hernández-Licona, G., R. Aparicio and F. Mancini (coords.) (2018), *Pobreza y Derechos Sociales en México*, Mexico, National Council for the Evaluation of Social Development Policy (CONEVAL)/National Autonomous University of Mexico (UNAM)-Instituto de Investigaciones Sociales (IIS).

Hunt, P, S. Osmani and M. Nowak (2002), *Draft Guidelines: A Human Rights Approach to Poverty Reduction Strategies*, Switzerland, UN Office of the High Commissioner for Human Rights (OHCHR), September.

IIDH (Instituto Interamericano de Derechos Humanos) (2008), *Protección internacional de los derechos económicos, sociales y culturales: Sistema Universal y Sistema Interamericano*, San José.

Jahan, S. (2004), "Human rights-based approach to poverty reduction-analytical linkages, practical work and UNDP", High-Level Seminar under Global Partnership for Development on Right to Development United Nations Office of the High Commisioner on Human Rights, Geneva [online] http://w02.unssc.org/free_resources/UNDP-OHCHRToolkit/pdf/jahan.pdf [date of consultation: 25 October 2021].

_____ (2002), "Human Rights-Based Approach to Poverty Reduction-Analytical Linkages, Practical Work y UNDP" [online] http://w02.unssc.org/free_resources/UNDP-OHCHRToolkit/pdf/human_rights_poverty_reduction.pdf.

Jusidman, C. (2020), "Consideraciones sobre la medición oficial de la pobreza en México", *Medición multidimensional de la pobreza en México,* F. Cortés (coord.), Mexico, Latin American Faculty of Social Sciences (FLACSO).

Koubi, K. (2004), "La Pauvreté, comme Violation des Droits Humanis", *Revue Internationale des Sciences Sociales*, No. 180 [online] https://www.cairn.info/revue-internationale-des-sciences-sociales-2004-2-page-361.html.

Mancini, F. (2018), "La pobreza y el enfoque de derechos: algunas reflexiones teóricas", *Pobreza y derechos sociales en México*, G. Hernández-Licona, R. Aparicio and F. Mancini (coords.), Mexico, National Council for the Evaluation of Social Development Policy (CONEVAL)/National Autonomous University of Mexico (UNAM)-Instituto de Investigaciones Sociales (IIS).

Maxwell, S. and P. Kenway (2000), "New thinking on poverty in the UK: Any lessons for the south?", *ODI Poverty Briefing*, Londres, Overseas Development Institute (ODI).

Morlachetti, A. (2010), "Legislaciones nacionales y derechos sociales en América Latina: análisis comparado hacia la superación de la pobreza infantil", *serie Políticas Sociales*, No. 164 (LC/L.3243-P)*,* Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Children's Fund (UNICEF), September.

Moser, C. (2004), "Rights, power, and poverty reduction", *Power, Rights and Poverty: Concepts and Connections*, R. Alsop (ed)., Washington, D.C., The World Bank.

Nájera, H. (2020), "La confiabilidad estadística de la medición oficial multidimensional de la pobreza en México", *Medición multidimensional de la pobreza en México*, F. Cortés (coord.), Mexico, Latin American Faculty of Social Sciences (FLACSO).

Nussbaum, M. (1997), "Capabilities and human rights", *Fordham Law Review*, vol. 66, No. 273.

OAS (Organization of American States) (1999), *Protocolo adicional a la Convención Americana sobre Derechos Humanos en Materia de Derechos Económicos, Sociales y Culturales "Protocolo de San Salvador"*.

OHCHR (Office of the United Nations High Commissioner for Human Rights) (2006), "Informe sobre indicadores para vigilar el cumplimiento de los instrumentos internacionales de derechos humanos", Geneva, United Nations.

_____ (2004), *Los derechos humanos y la reducción de la pobreza: un marco conceptual*, New York/Geneva, United Nations.

_____ (2003), *Diagnóstico sobre la situación de los derechos humanos en México*, Mexico.

Parra, O. (2009), "El sistema interamericano y el enfoque de derechos en las estrategias de desarrollo y erradicación de la pobreza: algunas líneas de trabajo para las defensorías del pueblo", *Cuadernos electrónicos*, No. 5.

_____ (2003), *Poverty Reduction and Human Rights*: A Practice Note (CF/EXD/1998-04), New York.

Pettinato, S. (2014), "La medición multidimensional de la pobreza para una nueva política social: la apuesta de El Salvador", El Salvador, United Nations Development Programme (UNDP) [online] http://www.slideserve.com/emilia/stefano-pettinato-pnud-el-salvador.

Santos, M. (2019), "Desafíos en el diseño de medidas de pobreza multidimensional", *series Estudios Estadísticos*, No. 100, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Sen, A. (2005), "Human rights and capabilities"*, Journal of Human Development,* vol. 6, No. 6.

_____ (1999), *Development as Freedom*, Oxford, Oxford University Press.

_____ (1976), "Poverty: an ordinal approach to measurement"*, Econometrica,* vol. 44, No. 2.

STPP/MINEC-DIGESTYC (Secretaría Técnica y de Planificación de la Presidencia/Ministerio de Economía -Dirección General de Estadística y Censos) (2015), *Medición multidimensional de la pobreza*, El Salvador.

UNDP (United Nations Development Programme) (2014), *La pobreza en el Salvador: desde la mirada de sus protagonistas*, San Salvador [online] https://www.undp.org/es/el-salvador/publicaciones/la-pobreza-en-el-salvador-desde-la-mirada-de-sus-protagonistas.

UNICEF (United Nations Children's Fund) (1998), *Guidelines for Human-Rights Based Programming Approach. Executive Directive* (CF/EXD/1998-04), New York.

United Nations (2015), *Transformar nuestro mundo: la Agenda 2030 para el Desarrollo Sostenible*, Aprobado el 25 de septiembre de 2015 (A/RES/70/1), General Assembly.

_____(1966a), *Pacto Internacional de Derechos Civiles y Políticos*, Adoptado y abierto a la firma, ratificación y adhesión por la Asamblea General en su resolución 2200 A (XXI), de 16 de diciembre de 1966.

_____(1966b), *Pacto Internacional de Derechos Económicos, Sociales y Culturales* Adoptado y abierto a la firma, ratificación y adhesión por la Asamblea General en su resolución 2200 A (XXI), de 16 de diciembre de 1966.

_____(1993), *Declaración y Programa de Acción de Viena* (A/CONF.157/23), 12 de julio de 1993, Ratificada el 20 de diciembre de 1993 mediante la Resolución de Asamblea General 48/121, Vienna, General Assembly [online] https://undocs.org/A/Conf.157/23 [20 October 2021].

_____(1948), *Declaración universal de derechos humanos,* Adoptada y proclamada por la Asamblea General de las Naciones Unidas en su resolución 217A (III), 10 December.

Vázquez, L. and S. Serrano (2011), "Los principios de universalidad, interdependencia, indivisibilidad y progresividad. Apuntes para su aplicación práctica", *La reforma constitucional de derechos humanos: un nuevo paradigma*, M. Carbonell and P. Salazar (coords.), Mexico, National Autonomous University of Mexico (UNAM)-Instituto de Investigaciones Sociales (IIS).

Yaschine, I. (2018), "Desafíos metodológicos para la medición de la pobreza en México desde el enfoque de derechos", *Pobreza y derechos sociales en México*, G. Hernández-Licona, R. Aparicio and F. Mancini (coords.), Mexico, National Council for the Evaluation of Social Development Policy (CONEVAL)/National Autonomous University of Mexico (UNAM)-Instituto de Investigaciones Sociales (IIS).

Annex

Table AI.1
Variables of components of human rights incorporated into the measurement of poverty

Human right	Component	Variables
To food	Availability	Food is available in sufficient amounts.
	Accessibility	Persons have access to appropriate resources with which to purchase food.
	Quality	Varied diet.
To health	Availability	Centres, goods, services and programmes for public health and sanitary attention are operational and in sufficient numbers.
	Accessibility	Non-discrimination, capability of physical and economic access.
	Quality	Ideal diagnosis and treatment, scientifically, technically and medically.
To education	Availability	Educational centres and teaching professionals within reach of students and sufficient in number so the entire population can read and write.
	Accessibility	Non-discrimination, physical and economic access.
	Quality	Educational techniques, processes and contents with positive effects on learning and performance.
To work	Availability	Enough services, facilities, equipment, mechanisms, procedures and tools necessary for work activities; this component also takes into consideration the worker-employer-State relationship, long-term unemployment, under-employment, labour rights, forced labour and child work.
	Accessibility	Non-existence of barriers or obstacles that prevent the right to work from materializing without discrimination for all people. Unemployment and under-employment are considered, though with stricter thresholds than for availability. Training and professional education are also taken into account.
	Quality	The means (facilities, goods and services) and contents through which the right is materialized must meet the requirements and conditions their function requires. The assessment also considers remuneration (when above the median income from work), the stability of work and the existence of work benefits.
To social security	Availability	Measures, actions and programmes aimed at providing universal social security to three demographic groups: (i) people who contribute to a pensions fund, (ii) people in retirement who receive a pension and (iii) people who, being permanently or temporarily out of work, are unable to perform a remunerative activity and must receive a pension.
	Accessibility	Non-discriminated physical and economic access for the three demographic groups already mentioned.
	Quality	Sufficient and timely aid and benefits for the three demographic groups already mentioned.
To housing	Availability	Existence of the minimal conditions for the materialization of the right, including the materials with which a house is built and water and sewage utilities.
	Accessibility	Within reach of all persons, at least in a physical, economic and legal sense, including building materials, clean water, sewage and electric power.
	Quality	Each of a house's elements meets minimum quality standards; criteria include overcrowding.
To access information	Availability	Access to a computer, tablet, smartphone or another device for accessing the internet; also, the household is in an area with internet services providers.
	Accessibility	Capability of physical and economic access: whether a house has access to an internet connection, or whether the people who live there have internet access, at least once a week, to work, study, entertain themselves or other activities.
	Quality	Secure, reliable, uninterrupted internet access.

Human right	Component	Variables
To a healthy environment	Availability	The minimal requirements for exercising the right are met when solutions can be provided when floods or droughts, landslides, strong winds or water currents have damaged a house. The right is fulfilled when the members of a household are not prevented from one of the following activities: going out at night, letting their children go out to play or leaving the house unwatched to walk around the neighbourhood because the place is not safe.
	Accessibility	Non-discriminated physical and economic access; in the event of a natural disaster, the ability to recover property through insurance.
	Quality	Surroundings appropriate for all its members' activities, without fear of being victims of crime or losing their possessions because of a natural disaster.

Source: Prepared by the authors.

Chapter II
Poverty gaps in Mexico: magnitude, evolution and territorial distribution[1]

Julio Boltvinik
Alejandro Marín

Introduction

For several reasons, measuring poverty is a fundamental tool for anti-poverty policy. The first reason is that the elements provided by poverty measurements could and should guide the design of policies and programmes. A second reason is that any attempt to evaluate the effectiveness of the actions would fail if the magnitude of poverty is unknown at the beginning of the action and how it evolves until it is completed. The third reason is that anti-poverty programmes, still common around the world, need to accurately identify their target population, household by household and person by person.

Measuring unidimensional poverty consists of five tasks: (i) choosing the indicators with which the measurement will be made; (ii) defining the mathematical formulas that will be used to obtain the various aggregate poverty measures (APM), and (iii) identifying the threshold that separates the poor from the non-poor. When multidimensional poverty measurements are adopted, two more tasks must be carried out: (iv) defining the procedure for combining the different dimensions (and their weights) and (v) setting the poverty criterion. In unidimensional measurements, the poverty criterion is obvious: those with income (or expenditures) below the poverty line (or threshold) are poor. However, in multidimensional measurements, some households will stand below some thresholds, but not all; therefore, doubt will arise as to whether or not they are poor. Therefore, the poverty criterion is no longer evident, and its definition constitutes the fifth task.

Many papers have covered the first three tasks of poverty measurement, but very little has been written on the last two tasks. Most economists focus on finding the mathematical expression that allows a global measure to be obtained. However, the most important controversy, which has moved beyond scholars and reached public policies, dwells on the choice of indicators and thresholds. Now that multidimensional measurements are common, the procedure and the identification and aggregation criteria are also being discussed.

As will be seen in this study, the number of poor people, the proportion they represent of the total population and the gap or intensity of their poverty vary with the poverty measurement method used and the adopted thresholds. There is no single method to carry out this measurement, nor is there an international consensus on the most appropriate. For this reason, when it comes to poverty, the chosen method is fundamental.

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[1] This chapter is a summary of J. Boltvinik, "Brechas de pobreza rural en México: magnitud, evolución reciente y distribución territorial", *Project Documents* (LC/TS.2023/26-LC/MEX/TS.2023/3), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC), 2023, and was prepared by Humberto Soto, Officer of the Social Development Unit, at the Subregional Headquarters of ECLAC in Mexico.

First, what any international body, government, institution or researcher wishing to measure poverty has to decide is whether only household income (or consumption) will be considered when identifying people experiencing poverty or if multiple dimensions (for example, housing, education, health, social security, among others), including income or not, will be considered. In other words, whether to adopt a multidimensional or a unidimensional method. Secondly, a decision must be made as to whether broad and generous standards will be used in each dimension that considers the country's legislation, international agreements and standards, the right of citizens to a dignified life, or if the measurement will use a skimpy criterion that only considers the indispensable basics of biological survival. In other words, the options are either biological/survival thresholds or dignity thresholds, which are called absolute poverty and relative poverty, respectively, in the poverty literature.

In Mexico, the federal government officially adopted a unidimensional poverty measurement based on income alone in 2002, with very low thresholds, in this author's opinion. However, in 2004, with the enactment of the General Act on Social Development (LGDS), the obligation to measure poverty in a multidimensional manner was instituted. This task was entrusted to the National Council for the Evaluation of Social Security Policy and Social Development (CONEVAL), an agency created by the new law. In 2009, CONEVAL presented its multidimensional methodology, which, again, uses very low thresholds and a poverty criterion that minimizes poverty. Subsequently, the Council for the Evaluation of Social Development of Mexico City (Evalúa DF, now a constitutionally autonomous body by the name of Evalúa CDMX) officially adopted as its multidimensional method the integrated poverty measurement method (IPMM), developed by Boltvinik between 1991 and 1992 and revised and improved over the years by Araceli Damián and this author. This method was used between 2008-2012 and from 2018 to this date.

It should be noted that both official and ECLAC poverty measurements have traditionally emphasised substantial differences between the urban (higher) thresholds and the rural (lower) thresholds. The only acceptable differences in thresholds between those two environments should be those that derive from the specific realities of the rural environment. This chapter will first look at the world's most important poverty measurement methods (which, strictly speaking, should be called methods for identifying the poor). Then, it will describe the most important aggregate poverty measures (APM). Afterwards, it will present in full detail the method that, in this author's opinion, is best —the integrated poverty measurement method improved by Boltvinik and Damián. Finally, based on that method, it will expound a series of calculations on poverty and compare gaps in the country between rural and urban environments and states.

A.   Typology of poverty measurement methods (PMM)

Poverty measurement methods can be classified as unidimensional or multidimensional, depending on whether one or multiple perspectives are considered to characterise the population living in poverty. Another typology for poverty measurement methods evaluates whether poverty is direct, indirect or combined. Direct methods are based on the direct observation of compliance with a standard (for example, whether or not a house is connected to the water system). Indirect methods judge, based on the resources available to a household (level of income and available time as set by a legal standard), whether it can satisfy its needs. In other words, while direct methods are factual, indirect ones are potential.

A third way to classify poverty measurement methods is by their non-normative, semi-normative or normative[2] nature. Non-normative methods define the poor as the population of certain deciles, and those that define the poverty line (PL) as a fraction of the mean or median household income. Both approaches confuse poverty and inequality and have the characteristic that, in a recession, as everyone's incomes fall, poverty, far from increasing, could diminish. Another non-normative method uses international poverty lines based on poverty lines observed in the poorest countries. In consequence, the poverty line is extremely low and has no significance in terms of the cost of meeting needs. These methods, in addition to being non-normative, are unidimensional and indirect.

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[2]   The normative nature of methods depends on their reliance on external stipulations to the measurement itself regarding what ought to be (usually, standards of meeting needs).

Semi-normative methods include one that compares the poverty line against income. This method combines a normative position on food with a non-normative (empirical) position on other needs. In all its variants, a normative food basket is defined, the cost of which is calculated and divided by the Engel coefficient (which incorporates the cost of the rest of the needs for a reference population). In this way, the poverty line is obtained. In some applications, the cost of the normative food basket is taken as the extreme poverty or destitution line. The main difference between the variants is in how they select the Engel coefficient. Some (for example, the World Bank, 1990 and the Technical Committee for the Measurement of Poverty, Mexico, 2002) use the coefficient observed among the poor. Others choose the coefficient given by the population average (Orshansky, 1965, who must be considered the creator of this variant). A third option is to select the coefficient observed in a reference stratum that meets nutritional requirements.

There are more alternatives to the poverty line method, such as one that compares the cost of the normative food basket with the amount spent by a household on food. It should be noted that semi-normative methods can be indirect or combined, unidimensional or multidimensional. Finally, normative methods are indirect methods that define the poverty line by the cost of all the goods and services in the basket. Some of these methods define the poverty line using a generalised normative basket or one that uses the family budget approach. Developed by Rowntree (1902, 1937 and 1941; Rowntree and Lavers, 1951), this option has been widely used in Mexico, where it has been called the normative basket of essential satisfiers (CNSE).[3]

Other normative methods include subjective poverty lines that consider thresholds based on people's opinions. Finally, other methods use objective poverty lines that pose a unidimensional concept of potential (or resource-based) poverty created by means of statistical techniques such as, for example, the discriminant analysis. These methods are entirely objective or scientific. Another method measures poverty through available or discretionary time. This method has been approached in two ways, one that states that time poverty can be calculated independently, and another for which it only makes sense to calculate income-time poverty. However, methods that incorporate time into their measurements are rarely used. Nonetheless, the possibility of measuring poverty indirectly with the time variable alone or by combining it with income is implicit in all methods that view households as units of consumption and production.

A wide range of direct normative methods start from the concept of unsatisfied basic needs (UBN). All these methods consider different dimensions of well-being (needs) and identify them by direct indicators, which are analysed horizontally one by one to produce an image of the standard of living of a household. They are multidimensional methods that set a threshold for each dimension. With the thresholds, these methods can identify whether a household is able or not to satisfy a certain need. The method considers that all households that have one or more unsatisfied needs are poor. There are several variants of the method, which incorporate grading scales that go beyond a mere dichotomy. Among other things, all of them make it possible to calculate poverty gaps and produce more elaborate aggregate measures of poverty.

There is also the possibility of combining methods of different types. One example is the integrated poverty measurement method (IPMM), which combines the unsatisfied basic needs method in its original variant and the normative food basket variant of the poverty line method. The two methods are combined in a contingency table (matrix) that classifies people into four categories: poor by both methods, not poor by both, poor only by the UBN method and poor only by the PL method. This improvement is helpful in overcoming the limitations of the original version and will be the one used in this chapter. Its details will be presented in full detail in a later section.

There is a variety of combinatory methods, which connect different options, such as the social progress index, the truly-poor method, the truly-consensual poor method, the double-cut count or modified-truly-poor method, currently used to measure multidimensional poverty in Mexico at the national level. This latter method is characterised by a tendency to overestimate deficiencies, which is

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[3] The details can be found in COPLAMAR (1983), Annex II. The Poverty Line derived from the National Survey of Urban Employment (CNSE) has been utilized by various researchers, including Hernández Laos (1992), Levy (1991), Alarcón (1993), Lustig (1990), and Boltvinik (1996), among others. See also Boltvinik and Marín (2023).

offset by minimalist thresholds. Both the European and Latin American traditions tend to move from direct to combined methods. However, there are huge disparities between the combined methods, as is often the case when new avenues are explored. When the direct and indirect perspectives are combined, the first difference arises in how each is used. The second difference lies in the criterion for separating the poor from the non-poor (poverty criterion).

Combined methods identify the poor using direct and indirect indicators, and almost all do so in two stages: first, the direct and indirect poor are identified. In a second stage, a procedure/criterion is applied to combine the situation of each household in both dimensions. The exception seems to be the method of Alkire and Foster (2007), in which the two-stage separation is not explicit. There is no consensus about combined methods, even at a general level. However, in all cases, the integrated poverty measurement method considers available time, and except for the social progress index, all others are dichotomous and minimalist. This study uses a modified variant of the Integrated Poverty Measurement Method described below.

B.   The Integrated Poverty Measurement Method (IPMM)

The purpose of the IPMM is to develop a measurement of poverty that reflects human rights based on an objective definition that recognises all deficiencies, even when they cannot be remedied immediately, and that promotes public policies to reduce such deficiencies progressively. In the Mexican case, it is based on the social guarantees recognized in the Constitution of 1917 and, since then, has been enriched to form a wide range of social rights for all Mexicans.

Thus, most social rights and the degree of access to them are verified by the various components of the IPMM. In particular, the IPMM includes the following rights: to education and rest; to nutritious, sufficient and quality food; to sufficient, acceptable and affordable water for personal and domestic consumption; to enjoy a dignified and decent home; to culture; and social security; to the protection of health and medical care; and, finally, the right to a level of household income (not per person) comparable to the definition of minimum wages established in the Constitution, that is, enough to meet the material, social, cultural and educational needs.

The IPMM integrates two components correlated with the direct and indirect methodological perspectives for measuring the satisfaction of human needs. These perspectives are the unsatisfied basic needs (direct perspective) and the poverty line method (indirect perspective). Both are combined to achieve complementarity. The unsatisfied basic needs method verifies human needs that should depend on public spending or that tend to depend predominantly on accumulated household investment, as opposed to current income. The poverty line method determines human needs that fundamentally depend on current private consumption: food, clothing, footwear, personal care, personal and household hygiene, transport and basic communications, recreation, information and culture. In addition, the concept of time poverty, associated with socially necessary workloads (domestic and extra-domestic work), is incorporated into the measurement. Excessive working time is incorporated and combined into the measurement of the second component. Diagram II.1 shows the components and subcomponents that comprise IPMM.

The subcomponents of unsatisfied basic needs are calculated with the following indicators:

- Housing, defined through two sub-dimensions: the quality of construction materials and the number of available spaces, relating the classification of rooms (kitchen, bedroom and multipurpose room) with the number of inhabitants of a home.

- Durable goods, an indicator of one of the sources of well-being and not of a specific need in particular (something entirely similar to what happens with income). The standard includes domestic equipment associated with food, hygiene and recreation needs, among others.

- Sanitary adequacy, which includes water, drainage and flush toilet.

- Energy, which considers electricity and fuel in the domestic sphere.

- Telephone, which covers both landlines and cell phones.

- Education, constructed based on age and the literacy indicator, as well as the level and grade of schooling.
- Health, which can be obtained through public or market services.
- Social security, which, when absent, may be verified by income level.

Diagram II.1
Components of the integrated poverty measurement method (IPMM)
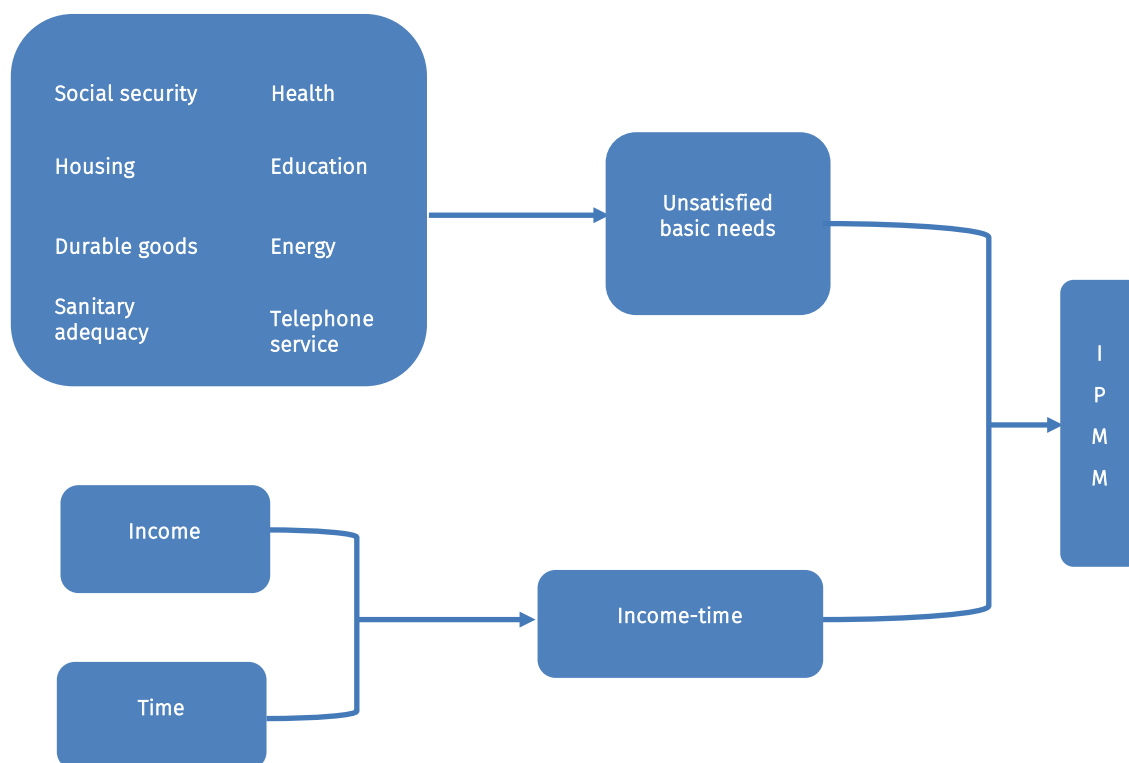
Source: Prepared by the authors, on the basis of Evalúa CDMX.

In this method, income and time indicators are combined under the premise that some households overwork to obtain more income. For this reason, in households that work too much, household income is penalized before being compared to the poverty line. This gives rise to a composite income-time index that is then combined with the unsatisfied basic needs index. The poverty line used in the IPMM is based on the normative basket of essential goods (CNSE). The line incorporates both economies of scale and adjustment per adult equivalent. In addition, the income as captured by the Household Income and Expenditure Survey (ENIGH) is adjusted and, using the methodology available in Evalúa CDMX (2019b) is incorporated into the Household Account of the System of Accounts by Institutional Sectors of INEGI.

In the operationalisation of IPMM, variables associated with components are transformed into objective well-being (or deprivation) indicators. Indicators for achievements go from zero (0) to two (2), with a normative level (satisfaction threshold) equal to one (1). Indicators of deprivation or lack go from minus one (-1, maximum well-being) to plus one (+1, maximum deprivation), with a normative level equal to zero (0). Thus, each indicator of IPMM corresponds to a satisfaction threshold (norm). Table II.1 shows the standards adopted by the Mexico City government to measure poverty with IPMM.

Table II.1
Mexico: satisfaction thresholds (norms) of the integrated poverty measurement method (IPMM), 2018

Components and subcomponents	Integrated Poverty Measurement Method (IPMM)
Income	
Monthly per capita LP/LB (urban)	4 763.69
Monthly per capita LP/LB (rural)	4 321.03
Time	Up to 48 weekly hours of work, in or out of home
Unsatisfied basic needs	
Housing	
Overcrowding	2.0 people per bedroom
	Exclusive kitchen
	Multipurpose room
Quality of materials	Hard concrete floor
	Walls: brick, concrete, stone, block
	Roof: tile or other materials
Sanitary adequacy	
Water	In daily supply directly to the house
Flush toilet	Not shared and with direct water discharge
Sewage	Connected to a public network or septic tank
Telephone service	Landline or cell phone
Energy	
Fuel	LP gas in tanks, natural gas from ducts or electricity
Electricity	Any source
Education	3 to 18 years: Attendance at the corresponding level and grade according to age
	≥19 and born up to 1977 (39): High school
	Born between 1947 and 1976 (40 to 69): Secondary
	Born before 1946 (≥70): Primary
Health	Standard: IMSS, ISSSTE or ISSFAM. Else, availability of income to pay for voluntary affiliation to IMSS.
	Partial satisfaction: Seguro Popular programme
Social security	Standard: IMSS, ISSSTE or ISSFAM
	Partial satisfaction with the programme for older persons (PAM)

Source: Prepared by the authors, on the basis of National Council for the Evaluation of Social Development Policy (CONEVAL), 2010 and 2018 calculation log.

Additionally, IPMM assigns cardinal values to all possible solutions to satisfy needs. This is done to incorporate the concept of intensity into the measurement of poverty to identify different degrees of satisfaction/deprivation. Conceptually, cardinalization consists of constructing scales of objective well-being, not of utility, so that the relative distances between the options are defined by their impact on those scales (when below the norm, scales assess the severity of the harm; when above, they assess the achievement). Figure II.1 shows a cardinalization exercise replicable for the case of toilet access. The exercise is compared to a dichotomous proposal. It should be noted that the IPMM standards have been reviewed by expert panels, which has reduced errors.

To obtain the poverty estimate using IPMM, a system of weights for the components and subcomponents is needed. The Method then weighs each item by the proportion of total resource requirements (or total costs) it represents. One advantage of weighting costs is that the resulting indices express both the intensity of poverty and the resources needed to overcome it. By expressing

all indicators as metric indicators and combining them with weights that keep their metric qualities, in the end, IPMM renders a quantitative indicator for each individual or household. This makes it possible to adopt for integrated poverty the same logic that was adopted for partial indicators: the poor are those for whom the value of the integrated deprivation indicator is greater than one. By combining the components of unsatisfied basic needs with those of income-time, the joint indicator of the integrated poverty measurement method (IPMM) makes it possible to tell between the poor and the non-poor populations.

Figure II.1
Example of achievement index for access to the toilet (threshold = 1), with cardinalization (above) and dichotomy (below)
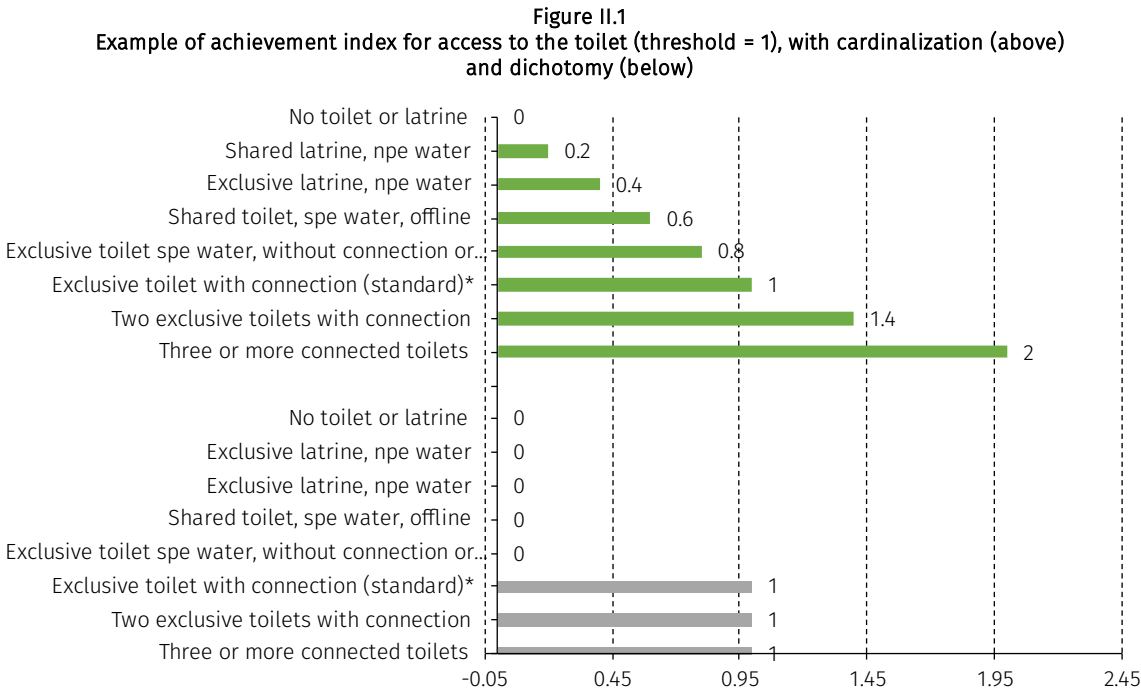
Source: Prepared by the authors, on the basis of J. Boltvinik, "Propuesta de medición de la pobreza con base en principios de la medición multidimensional de la pobreza", *Medición multidimensional de la pobreza en México*, J. Boltvinik and others, Mexico, El Colegio de México/National Council for the Evaluation of Social Development Policy (CONEVAL), 2010.

Figure II.2
IPMM weights
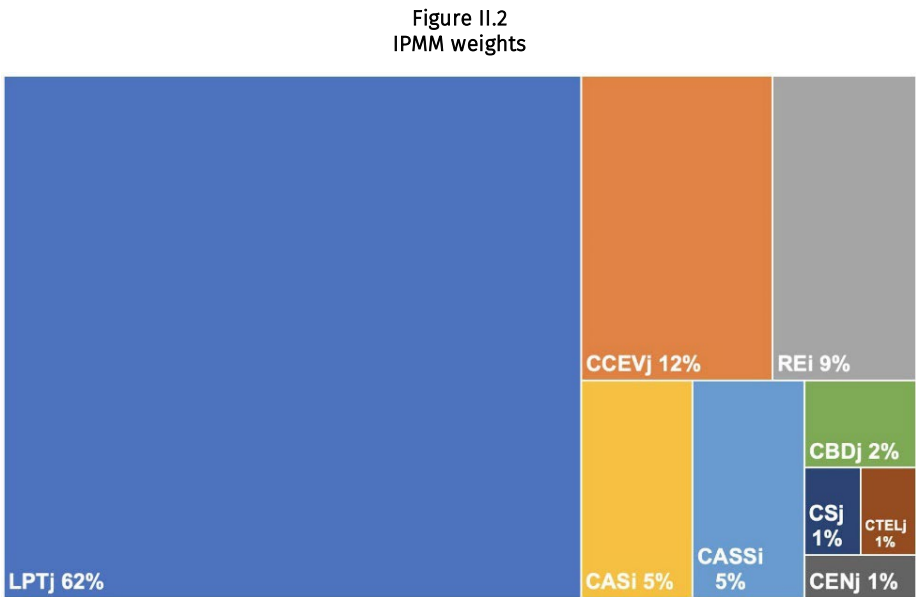
Source: Prepared by the authors.

Finally, different strata can also be generated. The population in poverty is divided into three strata according to the intensity of their deprivation: very high poverty, high poverty and moderate poverty. Based on the degree of satisfaction of their needs, the non-poor population is further classified into three strata: minimum satisfaction, middle class and upper class. These strata are constructed considering the following:

- Very high poverty. The very high poverty stratum refers to the population that, on average, meets less than half of the standards established by IPMM indicators.
- High poverty. The high poverty stratum consists of people who, on average, meet between more than half and less than two-thirds of IPMM standards.
- Moderate poverty. Moderate poverty identifies the population who, on average, covers between two-thirds and under 100% of IPMM standards.
- Minimal satisfaction. Individuals who, on average, meet all IPMM standards and may even exceed them by less than 10%.
- Middle class. The stratum of people who, on average, satisfy between 1.1 and 1.49 times IPMM standards.
- High class. The upper-class stratum comprises the population that meets IPMM standards by 1.5 times or more.

The sum of the three poverty strata reveals the total number of people in poverty. The sum of the very high and high poverty strata produces the number of people in extreme poverty. Finally, the sum of the minimum satisfaction, middle and upper-class strata gives the total of non-poor people.

In short, the IPMM integrated indicator is the weighted average (by participation in the total cost of satisfaction at the threshold level) of the unsatisfied basic needs and income-time components. The unsatisfied basic needs component is too a weighted average (also by participation in the costs of satisfaction) of eight subcomponents of needs/ specific satisfiers (housing, durable goods, sanitary adequacy, energy, telephone, education, health and social security).

Furthermore, the income-time component results from combining the income and available time subcomponents. The income component weighs less when there is excess work time/lack of available time but weighs more (only in non-income-poor households) when available time stands above the normative threshold. (In income-poor households, the income-time indicator equals the income indicator when there is no lack of available time.) This modification is made only for income associated with working out of the home. Once modified, the household income is compared against the household PL. The household and its members will be income-time poor if their modified income is under the poverty line (PL).

C.   Aggregate poverty measures (APM)

The study of poverty must distinguish between methods for measuring poverty and poverty measurements. It starts with Sen's classic distinction (1981 and 1992) between identification (who is poor and who is not) and aggregation, which makes it possible to obtain poverty indicators in the social sphere. In this context, once a method for measuring poverty has been applied and an identification has been made (who is poor and who is not), the first aggregate measure of poverty typically calculated is the incidence, which expresses the proportion of poor people. Incidence (H) is equal to the number of poor people (q) divided by the number of people who make up the population (n), expressed as $H = q / n$. This is the most elementary of poverty measures. When standardised for the total population, poverty may be combined among units of different sizes.

This measure is calculated in practically all areas that apply a method for measuring poverty. However, more measures make it possible to know how wide and deep poverty is in a given society. One of these measures assesses how poor a specific household or individual is and aggregates all households or individuals identified as poor. Thus, the poverty intensity (I) or gap, the second aggregate measure of poverty expounded in this study, expresses how far people are from the standardized poverty threshold (poverty gap). It is equivalent to the weighted average of the poverty gaps of all households (weighted by

the household size). Alternatively, it is equal to the simple average of the poverty gaps of poor individuals. It ranges between -1 and +1 and is negative for the non-poor population. When a person is just on the normative threshold, intensity equals zero.

In other words, the average intensity of poverty corresponds to the average deprivation mass of poor people. By multiplying this measure by incidence, a third poverty measure is obtained —equivalent incidence (HI), expressed by the formula HI=(q/n)*I. HI corresponds to incidence standardized by average intensity. It is a measure that makes it possible to compare geographic units with different compositions of poverty and different population sizes. With equivalent incidence, geographic units or social groups can be classified from more to less poverty.

Now then, if the average intensity measure is multiplied by the number of poor people, a fourth aggregate measure of poverty is obtained —the total deprivation mass, which expresses the number of equivalent poor people (qI), that is, those people whose poverty intensity has been homogenized into 1. The expression is qI = q*I. The concept of equivalent poor is handy for analysing poverty's geographic and strata distribution. It is also helpful for policies that allocate resources against poverty. This paper uses the four aggregate poverty measures described above to compare between states and between poverty strata.

D.   The Integrated Poverty Measurement Method (IPMM) applied to Mexico

The following are the results of applying the Integrated Poverty Measurement Method (IPMM) to measure poverty in Mexico. As already mentioned, this measurement used household income adjusted to national accounts, as collected by the 2020 National Household Income and Expenditure Survey. Results are disaggregated by urban and rural localities, state, strata (as per the stratification described above) and by components and subcomponents of IPMM. The aggregate measures of poverty mentioned in the last section are also shown for a more detailed comparison. These measures are incidence (H), poverty intensity (I), equivalent incidence (HI) and equivalent poor (qI). Besides, the evolution of 2016-2018-2020 is also analysed though results for 2020 are not fully comparable to previous years.

1.   Levels of poverty and extreme poverty in Mexico in 2020

The application of the Integrated Poverty Measurement Method in Mexico (IPMM) shows that, in 2020, the incidence of poverty in the country amounted to 72.9% (almost three-quarters of the population). This estimate is higher than calculations by the National Council for the Evaluation of Social Development Policy (CONEVAL), the Economic Commission for Latin America and the Caribbean (ECLAC), the World Bank (WB) and the United Nations Development Program (UNDP). It also exceeds the figures estimated by many Mexican researchers, who provide very different images of poverty in Mexico. CONEVAL and ECLAC calculate that less than half of Mexicans are poor (41.9% and 41.5%, respectively). For the World Bank and UNDP, poverty levels in Mexico are around a mere 5%. As explained in previous sections, the significant differences stem from various conceptual and methodological considerations. However, this author considers that the best estimates were obtained using the IPMM, which indicated that extreme poverty affected 42.9% of the population in 2020. This figure is also much higher than CONEVAL and ECLAC estimations (7% and 10.6%, respectively).

Two very contrasting scenarios appear when disaggregating the calculations between urban[4] (2,500 inhabitants or more) and rural (less than 2,500 inhabitants) areas. While 68.3% (more than two-thirds) of the urban population was poor (either extremely or non-extremely poor), 88.3% of the rural population (almost 9 out of 10 people) was poor. The contrast is steeper for extreme poverty, as 36.7% (more than one-third) of the urban population was extremely poor, but 61.6% (about two-thirds) of the rural population found themselves in the same situation. This leads to the conclusion that Mexico is a country where poverty predominates in urban areas and extreme poverty predominates in rural areas (see figure II.3).

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[4]   Mexico is predominantly urban, with 77% of its population residing in urban areas as of 2020.

Figure II.3
Structure of poverty in Mexico, 2020 (based on IPMM)
(Percentages)
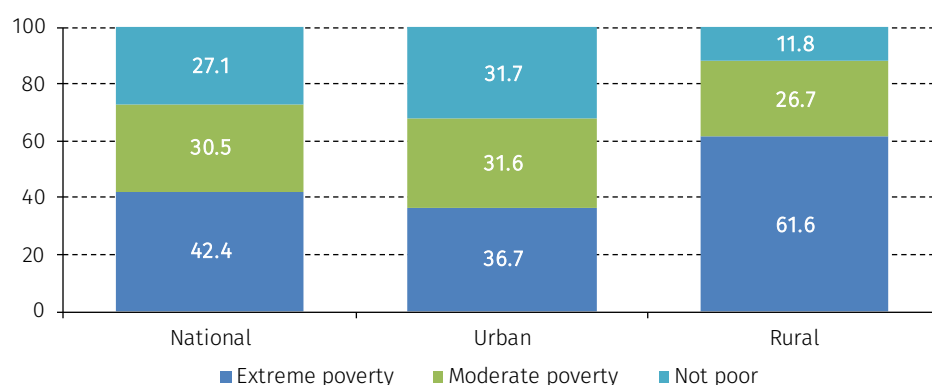
Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

The analysis by number of poor people shows that, in absolute terms, urban poverty predominates in Mexico. According to IPMM, the population living in poverty at the national level amounts to 92,4 million, of which 66,6 million live in urban localities. As for extreme poverty, 53,8 million people live in this condition, of which 35,8 million live in urban areas (see figure II.4). In a mainly urban country, the distribution of poverty among urban and rural groups makes inequality between the countryside and the cities more evident. A proportion of 72.1% of the poor population of the country lives in urban localities. Of people in cities, 66.5% live in extreme poverty, and 79.8% live in moderate poverty (see table II.2).

Figure II.4
Levels of poverty in Mexico, 2020 (based on IPMM)
(Million people)
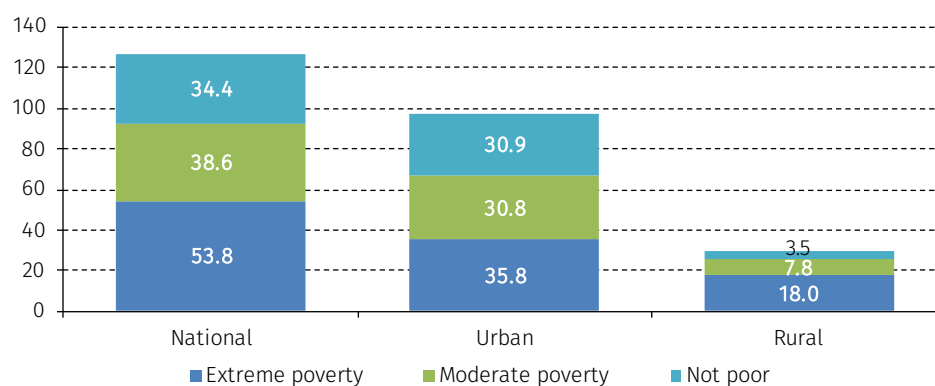
Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

Table II.2
Mexico: distribution of the population in situation of poverty, by urban and rural areas, 2020 (based on IPMM)
(Percentages)

	Extreme poverty	Moderate poverty	Non-poor	Population total
Urban	66.5	79.8	89.8	76.9
Rural	33.5	20.2	10.2	23.1
National	100.0	100.0	100.0	100.0

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

2.   Relative presence of the incidence of total poverty in IPMM components and subcomponents, national, urban and rural populations, 2020

As indicated in a previous section, the IPMM poverty indicator consists of components and subcomponents. Figure 6 shows the incidence of poverty by each of its elementary components (income, time and unsatisfied basic needs), its two final components (income-time and unsatisfied basic needs) and the eight subcomponents of the unsatisfied basic needs component: housing, durable goods, sanitary adequacy, energy, telephone, education, health and social security). The incidence of poverty is shown for national, urban and rural populations. It can be seen that, both nationwide and in urban areas, the greatest presence of poverty/deprivation occurs in the integrated indicator IPMM. However, the greatest poverty in rural areas is found in the unsatisfied basic needs component. On the other end, the lowest incidence is shown by poverty/lack of telephone services. As this incidence is low in both urban and rural areas, it is also low at the national level. In urban areas, energy has the second lowest incidence, while in rural areas, durable goods come next.

Figure II.5
Mexico: incidence of total poverty by IPMM components and subcomponents, by urban and rural areas, 2020
(Percentages)
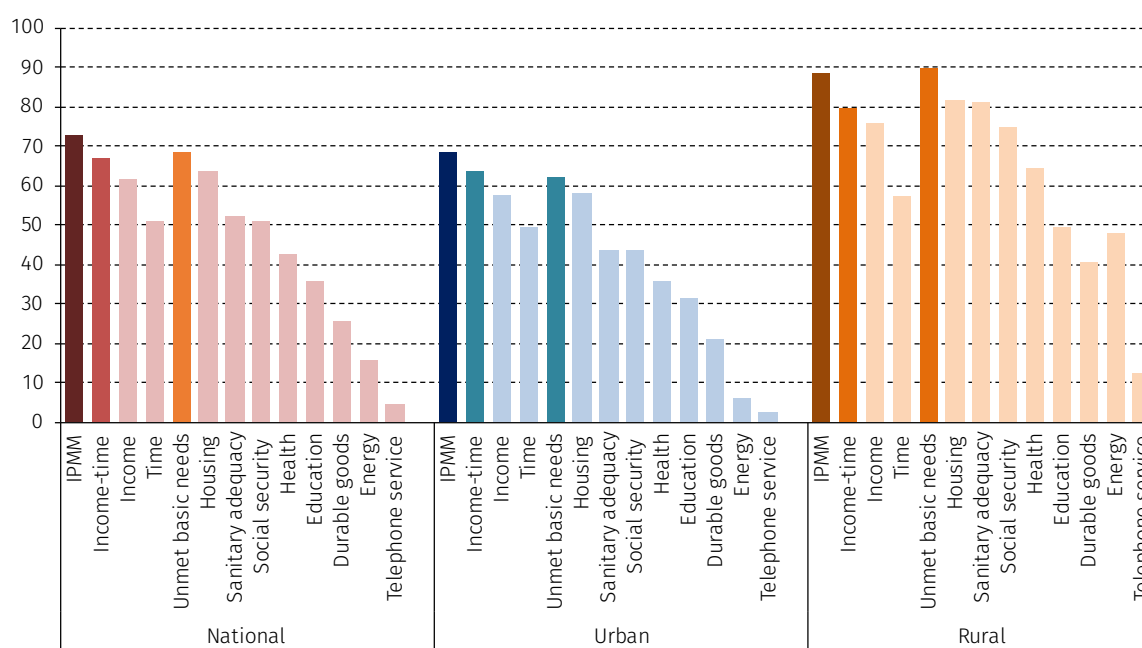
Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

In urban areas, poverty for most components stands under 50%, and none exceeds 70%. But in rural areas, there are several components and subcomponents that exceed 70%. For national, urban and rural populations, housing is the unsatisfied basic needs component in the worst situation. Social security and sanitary adequacy follow not far behind. In rural areas, the incidence for most of the subcomponents stands above 50%. Exceptions are telephone services, energy and education. Figure II.5 shows the contrast between the incidence of poverty in urban and rural areas. For all components and subcomponents, the more significant deficiencies are in rural areas. The most telling differences correspond to the energy and telephone subcomponents, followed by contrasts in durable goods, sanitary adequacy, health and social security.

Table II.3 shows the absolute value in millions of people according to the incidence/deprivation of each IPMM component and subcomponent. As may be seen, there is also a sharp contrast in the relative participation of the population in urban and rural areas. Considering that the urban-rural distribution of the country ranges from 76.9% to 23.1%, it is observed that the incidence of the IPMM aggregate indicator follows a similar pattern, although a little less concentrated in urban localities. The same occurs with the income-time component. The incidence of the unsatisfied basic needs component is lower in urban areas. In rural areas, there is a higher percentage of disadvantaged people in this component. Moreover, unsatisfied basic needs subcomponents are even more concentrated in rural areas. Energy and telephone stand out, as 70.1% and 59.3% of people without them live in the countryside. Except for housing and education, the rural environment is where just over 1/3 of the population who experience unsatisfied basic needs have their place of residence.

Table II.3
Mexico: total people in poverty by IPMM components and subcomponents and relative participation by urban and rural areas, 2020
(Percentages)

	Millions of people in poverty			Relative share *(percentages)*		
	National	Urban	Rural	National	Urban	Rural
IPMM	92.4	66.6	25.8	100	72.1	27.9
Income-time	84.9	61.7	23.3	100	72.7	27.4
Income	78.4	56.3	22.1	100	71.8	28.2
Time	64.6	47.9	16.7	100	74.1	25.9
Unsatisfied basic needs	87	60.7	26.3	100	69.8	30.2
Housing	80.5	56.7	23.9	100	70.4	29.7
Sanitary adequacy	66.1	42.4	23.7	100	64.1	35.9
Social security	64.5	42.6	21.8	100	66	33.8
Health	53.7	34.8	18.9	100	64.8	35.2
Education	45.1	30.6	14.5	100	67.8	32.2
Durable goods	32.3	20.4	11.9	100	63.2	36.8
Energy	20.1	6	14.1	100	29.9	70.1
Telephone service	5.9	2.4	3.5	100	40.7	59.3
Total population	126.8	97.5	29.3	100	76.9	23.1

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

3.   Relative presence of the incidence of extreme poverty in IPMM components and subcomponents, national, urban and rural populations, 2020

Figure II.6 shows that, in all settings (national, urban and rural), the highest incidence of extreme poverty occurs in the combined income-time component (which even exceeds the value of the integrated indicator IPMM). At the national level and in urban areas, the lowest incidence occurs in the unsatisfied basic needs component. In rural areas, this component comes in second place. As can be seen, these rankings are different from the figures for total poverty described in the previous section.

Figure II.6
Mexico: incidence of extreme poverty by IPMM components and subcomponents, by urban and rural areas, 2020
(Percentages)
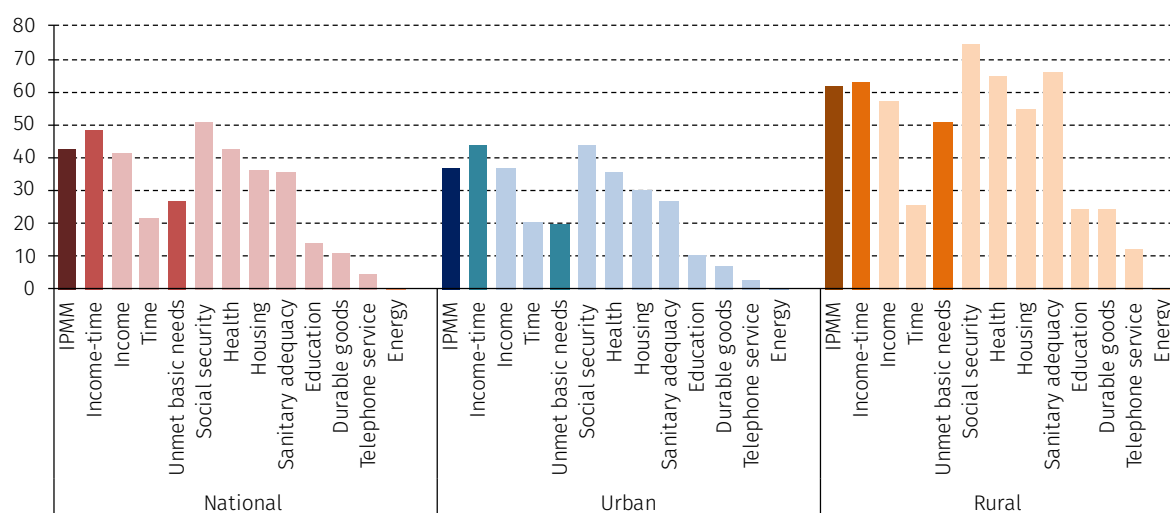
Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

Of the subcomponents of unsatisfied basic needs, social security has the highest incidence of extreme poverty in both rural and urban areas. This happens because, for social security, being a dichotomous variable, the incidence of extreme poverty will equal the incidence of poverty. At the national and urban levels, the second highest value for the incidence of extreme poverty corresponds to health. In rural areas, this indicator is in third place, after sanitary adequacy. The energy and telephone components again have the lowest incidence. Urban-rural relative shares show that the greatest disparities in the distribution of the IPMM integrated indicator occur in the unsatisfied basic needs component, particularly in the energy and telephone subcomponents, for which over half of the extreme poor live in rural areas.

Table II.4
Mexico: total people in extreme poverty by IPMM components and subcomponents and relative participation by urban and rural areas, 2020
(Percentages)

	Millions of people in extreme poverty			Relative share *(percentages)*		
	National	Urban	Rural	National	Urban	Rural
IPMM	53.8	35.7	18	100	66.4	33.5
Income-time	61.1	42.6	18.5	100	69.7	30.3
Income	52.6	36	16.6	100	68.4	31.6
Time	27.4	19.9	7.5	100	72.6	27.4
Unsatisfied basic needs	34.1	19.3	14.8	100	56.6	43.4
Social security	64.5	42.6	21.8	100	66	33.8
Health	53.7	34.8	18.9	100	64.8	35.2
Housing	45.5	29.5	16.1	100	64.8	35.4
Sanitary adequacy	45.3	26	19.3	100	57.4	42.6
Education	17.3	10.1	7.2	100	58.4	41.6
Durable goods	13.8	6.7	7.1	100	48.6	51.4
Telephone service	5.9	2.42	3.5	100	41	59.3
Energy	0.3	0.07	0.2	100	23.3	66.7
Total population	126.8	97.5	29.3	100	76.9	23.1

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

4.   Aggregate Poverty Measures by IPMM components in national, urban and rural settings in 2020

Table II.5 presents aggregate poverty measures obtained through IPMM and its components. Figures are shown for 2020 at the national, urban and rural levels. Nationwide, the incidence stands at 0.729 or 72.9%. This figure will have a more explicit meaning if it is remembered that of the 126 million people in Mexico, 97.5 million live in urban areas and 29.3 million in rural areas. It should also be kept in mind that IPMM estimates that, in Mexico, there are 92.4 million poor people, of whom 66.6 million live in urban areas and 25.8 million in rural areas. By dividing 66.6 over 25.8, we obtain 2.6, or 260%. But saying that poverty is 2.6 times more frequent in urban areas than in rural areas would be inaccurate because those two numbers cannot be directly compared. First, they must be standardized by the population of each area. This is what the incidence (H) does. In urban areas, H is 66.6/97.5 = 0.683 or 68.3%. In rural areas, it is 25.8/29.3 = 0.898 or 89.8%. Now we can compare 68.3% against 89.8% and affirm that the incidence of poverty (H) is 21.5% higher in rural areas than in urban areas, a much lower proportion than the 260% mentioned above.

Table II.5
Aggregate Poverty Measures by social strata and IPMM components, national, urban and rural settings, 2020
(I and HI expressed as ratios; qI as millions of equivalent poor)

		Extreme poverty				Moderate poverty				Total Poverty				Not poor	
		H	I	HI	qI	H	I	HI	qI	H	I	HI	qI	H	I
National	IPMM	0.424	0.536	0.227	28.8	0.305	0.166	0.051	6.4	0.729	0.381	0.278	35.2	0.271	-0.219
	Income	0.415	0.610	0.253	32.1	0.203	0.182	0.037	4.7	0.618	0.469	0.290	36.8	0.382	-0.180
	Time	0.216	0.646	0.139	17.7	0.294	0.146	0.043	5.4	0.510	0.358	0.182	23.1	0.490	-0.332
	Income-time	0.482	0.630	0.304	38.5	0.188	0.183	0.034	4.4	0.670	0.504	0.338	42.8	0.330	-0.235
	Unsatisfied basic needs	0.269	0.486	0.131	16.6	0.417	0.163	0.068	8.6	0.686	0.290	0.199	25.2	0.314	-161
Urban	IPMM	0.367	0.519	0.190	18.6	0.316	0.165	0.052	5.1	0.683	0.355	0.243	23.6	0.317	-0.222
	Income	0.369	0.599	0.221	21.6	0.208	0.181	0.038	3.7	0.577	0.448	0.259	25.2	0.423	-0.187
	Time	0.204	0.644	0.131	12.8	0.288	0.145	0.042	4.1	0.492	0.352	0.173	16.9	0.508	-0.345
	Income-time	0.437	0.620	0.271	26.4	0.195	0.182	0.036	3.5	0.633	0.485	0.307	29.9	0.368	-0.244
	Unsatisfied basic needs	0.198	0.469	0.093	9.0	0.425	0.156	0.066	6.5	0.623	0.255	0.159	15.5	0.377	-0.164
Rural	IPMM	0.616	0.570	0.351	10.3	0.267	0.169	0.045	1.3	0.883	0.449	0.396	11.6	0.117	-0.191
	Income	0.569	0.635	0.361	10.6	0.187	0.186	0.035	1.0	0.756	0.524	0.396	11.6	0.244	-0.142
	Time	0.256	0.649	0.166	4.9	0.314	0.148	0.047	1.4	0.571	0.373	0.213	6.2	0.430	-0.285
	Income-time	0.632	0.653	0.413	12.1	0.164	0.186	0.031	0.9	0.796	0.577	0.443	13.0	0.204	-0.184
	Unsatisfied basic needs	0.507	0.509	0.258	7.5	0.392	0.191	0.075	2.2	0.898	0.370	0.333	9.7	0.102	-0.122

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020.

Even with the adjustment, the comparison is still not precise because it considers the sum of poor people in different degrees or intensities. This is corrected by standardising the number of poor people by the intensity of their poverty. For this, the equivalent poor (qI) measure is used. To find qI, intensity must be first obtained. In 2020, the value of intensity (I) in urban areas was 0.355, while in rural areas it was 0.449. This indicates that the intensity of poverty in rural areas is 26.5% greater than in urban areas. Next, intensity must be multiplied times the number of poor people. Thus, the number of equivalent poor people (qI) is obtained. In urban areas, this number equals 23.6 million people. When compared to 11.6 million in rural areas, it can be seen that the ratio is slightly more than double: 2.04.

However, this last comparison is not yet the most appropriate either. To obtain it, we must combine the two standardisations already made: one for incidence (H), which produced a measure of the size of poverty, and one for intensity, given by the number of equivalent poor (qI). By multiplying incidence (H) by intensity, we arrive at equivalent incidence (HI). The value of equivalent incidence in urban and rural

areas amounts to 0.243 and 0.396, respectively. The conclusion is clear: in an egalitarian normative situation, the rural deprivation mass as a proportion of the rural population is much higher (1.63 times more) than in urban areas. Table II.5 shows the incidence and intensity (but not equivalent incidence) for the non-poor population, which have negative values. These are over-satisfaction or negative gaps that, though they should be considered in the analysis of inequality, go beyond the scope of this work.

The analysis by IPMM components shows that, both in urban and rural areas, the greatest intensity of extreme poverty appears in income, a simple component, and in income-time, a combined component. In both cases, the average intensity value is higher in rural areas. Obviously, the intensity of extreme poverty is greater than the intensity of non-extreme (moderate) poverty. Once more, for moderate poverty, the highest gaps are in the income and income-time components. However, now the wider gap is for time, one of the three elementary components of IPMM. This happens both in urban (0.644) and rural areas (0.649). Further analysis is needed to explain this result. Equivalent incidence (per capita deprivation mass) is the appropriate aggregate measure for ordering groups of people according to their poverty since it measures the deprivation mass standardized by size and intensity of poverty. Equivalent poor (a measure standardized only by intensity, measuring the absolute deprivation mass) is the appropriate measure to order groups in terms of the resources necessary to fight poverty.

5.   Evolution of main poverty indicators in 2016-2020

In even-numbered years, INEGI conducts the National Household Income and Expenditure Survey (ENIGH). This Survey makes it possible to measure poverty and inequality in household income and expenditures in Mexico. ENIGH, very lengthy and complex surveys, are carried out in the field for 3 months. The one for 2020 was lifted from August 21 to November 28. The questions ask individuals about income received and expenses made six months before the survey, and then, to report quarterly figures, INEGI divides the sum of those six months by two. As only data for income received between July and September are collected for all surveyees, this income is interpreted to refer to the third quarter of the year.

The comparison of intertemporal results assumes the full homogeneity comparability of the source. But 2020, the year in which the most recent ENIGH was lifted, was peculiar due to the Covid-19 pandemic. Therefore, it may be difficult to compare it with previous years. In 2020 there was a different seasonality than in the pre-pandemic years. The strictest lockdown occurred in the second quarter, which caused an unusual drop in economic activity and the population's income (and expenditures). By the third quarter, the one for which ENIGH collects most of its data, there had been a significant recovery, because activities were allowed to reopen in many areas. For this reason, ENIGH 2020 did not capture the worst moment of the recession caused by the pandemic and the lockdown. What ENIGH really compares is the situations in the third quarters. This must be borne in mind when reading what follows. Household income per capita in 2020 was 4.5% lower than in 2018.

The incidence of total poverty at the national level increased from 72.5% in 2016 to 72.9% in 2018, a very slight increase of only 4 tenths of a percentage point. Between 2018 and 2020, it remained constant at 72.9% (see table II.6). The intensity of poverty in the country also decreased very slightly from 2016 to 2018 (from 0.373 to 0.371). However, between 2018 and 2020 it increased more than it had decreased (from 0.371 to 0.381, a 2.7% increase). These different trajectories may be explained by the fact that the structure of poverty changed inversely between the two subperiods. In the first one, the relative weight of extreme poverty fell (from 40.9% to 40.6%), while moderate poverty increased (from 31.6% to 32.3%). But in the second subperiod, it was the other way around: the incidence of extreme poverty rose from 40.6% to 42.4%, while the incidence of moderate poverty fell from 32.3% to 30.5%. Equivalent incidence reflects these movements, too: between 2016 and 2018, it remained at 0.270 (due to the opposite movements of incidence, which increased, and intensity, which fell). By contrast, the equivalent incidence increased between 2018 and 2020 (from 0.270 to 0.278), reflecting a constant incidence and an increasing intensity.

Table II.6
Mexico: evolution of poverty 2016-18-20 (based on IPMM)

Indicators	Population (millions)			Incidence (H)			Intensity (I)			Equivalent incidence (HI)		
	2016	2018	2020	2016	2018	2020	2016	2018	2020	2016	2018	2020
IPMM strata												
a. Very high poverty	27.6	27.7	30.3	0.229	0.224	0.239	0.628	0.630	0.627	0.144	0.141	0.150
b. High poverty	21.8	22.6	23.4	0.181	0.183	0.185	0.417	0.416	0.418	0.075	0.076	0.077
c. Extreme poverty (a+b)	49.4	50.3	53.8	0.409	0.406	0.424	0.535	0.534	0.516	0.219	0.217	0.227
d. Moderate poverty	38.2	40.0	38.6	0.316	0.323	0.305	0.163	0.165	0.166	0.052	0.053	0.051
e. Total Poverty (c+d)	87.6	90.3	92.4	0.725	0.729	0.729	0.373	0.371	0.381	0.270	0.270	0.278
f. Non-poor	33.2	33.5	34.4	0.275	0.271	0.271	-0.21	-0.22	0.219	na	na	na
Total population	120.8	123.8	126.8	1.000	1.000	1.000	0.213	0.212	0.219	na	na	na
IPMM components												
Income-time	79.1	81.7	84.9	0.655	0.660	0.670	0.485	0.486	0.504	0.318	0.321	0.338
Income	71.0	73.8	78.4	0.588	0.596	0.618	0.449	0.448	0.469	0.264	0.267	0.290
Time	69.6	70.6	64.6	0.576	0.570	0.510	0.353	0.350	0.358	0.203	0.200	0.182
UBN	85.0	86.8	87.0	0.704	0.701	0.686	0.298	0.293	0.290	0.210	0.205	0.199

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2016 [online] https://www.inegi.org.mx/programas/enigh/nc/2016/; 2018 [online] https://www.inegi.org.mx/programas/enigh/nc/2018/; and 2020 [online] https://www.inegi.org.mx/programas/enigh/nc/2020/.

At the national level, how the incidence of poverty moved may be explained by the movements of the three IPMM basic components: income, time and unsatisfied basic needs. In this way, in 2016-2018, the incidence of poverty in the integrated IPMM indicator increased by 0.4, as a result of a 0.8 rise in the incidence of the income component, a 0.6 drop in the time component and a 0.3 drop in unsatisfied basic needs. Between 2018 and 2020, the incidence of poverty in the integrated IPMM indicator remained constant, as a result of an opposite movement in the incidence of the income component, which rose 2.2% (from 59.6% to 61.8%). At the same time, the incidence of unsatisfied basic needs fell by 1.5%, while for the time component, it fell by 6% because of the pandemic: as working time fell, people had more available time, albeit forced.

The increase in incidence in the income component of the IPMM is similar to what CONEVAL reported —2% (from 41.9% to 43.9%). In addition, according to IPMM, the intensity in the income component rose from 0.448 to 0.469. For the same component, the equivalent incidence went from 0.267 to 0.290 (an 8.6% increase). The 4.5% drop in per capita income reported by INEGI for 2018–2020 caused a drop of 8.6% in the equivalent incidence in the income component. This is the best approximation of its impact on income poverty. In contrast, the increase in the equivalent incidence in the integrated IPMM indicator was only 3%, given the fall in the equivalent incidence in the time and unsatisfied basic needs components.

6.   Poverty by states in 2020

Since long ago, the country's states (31 states and Mexico City) have been very heterogeneous in demographic size and living conditions. The list of states according to the incidence of total poverty is not surprising (see table II.7). As it happened with the classification made using COPLAMAR marginalisation index with data from the 1970 population census, 50 years later, in 2020, Chiapas, Guerrero and Oaxaca still occupied the last positions. On the other end, Mexico City and Nuevo León are still the best located. There are states that have changed their position a lot. For instance, Veracruz, which today is the fourth worst placed, was at the middle of the list in 1970. Querétaro went from being the 6th most marginalized state to the 21st place.

Table II.7
Mexico: incidence of extreme poverty and total poverty by state in 2020, based on MMIP
(Percentages)

State	Extreme poverty	Total poverty	Not poor	Total
Chiapas	75.8	91.0	9.0	100
Guerrero	64.7	86.8	13.2	100
Oaxaca	63.6	86.6	13.4	100
Veracruz	57.1	83.3	16.7	100
Tlaxcala	56.9	82.9	17.1	100
Puebla	60.2	82.7	17.3	100
Hidalgo	49.9	78.7	21.3	100
Tabasco	51.7	78.5	21.5	100
Michoacán	43.9	78.5	21.5	100
Morelos	48.2	77.7	22.3	100
Yucatán	46.2	76.5	23.5	100
Guanajuato	39.5	76.0	24.0	100
Zacatecas	43.8	76.0	24.0	100
Quintana Roo	46.3	75.6	24.4	100
Campeche	49.1	75.5	24.5	100
Estado de México	46.3	74.7	25.3	100
San Luis Potosí	42.8	74.1	25.9	100
National	42.4	72.9	27.1	100
Durango	37.4	72.0	28.0	100
Tamaulipas	35.6	71.4	28.6	100
Jalisco	30.5	67.5	32.5	100
Querétaro	31.5	66.6	33.4	100
Nayarit	29.3	64.0	36.0	100
Aguascalientes	26.4	63.9	36.1	100
Sinaloa	26.1	63.5	36.5	100
Baja California Sur	29.9	63.4	36.6	100
Colima	27.2	63.3	36.7	100
Baja California	25.4	63.0	37.0	100
Coahuila	25.4	62.5	37.5	100
Chihuahua	25.3	61.1	38.9	100
Sonora	26.6	60.1	39.9	100
Mexico City (CDMX)	28.2	58.8	41.2	100
Nuevo León	22.1	56.4	43.6	100

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020, 2021 [online] https://www.inegi.org.mx/programas/enigh/nc/2020/.

It can be seen that the values of poverty incidence according to IPMM range from 91% in Chiapas to 56.4% in Nuevo León, a difference of 34.6 percentage points. In the equivalent arrangement with CONEVAL data, the values range from 75.5% in Chiapas to 22.5% in Baja California, a range of 53 points, much wider than with IPMM. The IPMM listing of states IPMM has marked differences with the CONEVAL list. Most notably, the position of Mexico City, which CONEVAL places in the 13th best place, stands in the second best place according to IPMM. Only Nuevo León has a lower incidence. The main explanation derives from what this author identifies as one of the deficiencies of the CONEVAL method, also known as MMOP (Official Poverty Measurement Method) —namely, that the presence of deprivation is enough to classify a household/person as deprived in the dimension of social deprivation. In Mexico City, the economically active population (EAP) has a strong presence in the tertiary sector. Therefore, it has less social security coverage than many northern states, but social security is the indicator with the highest incidence of deprivation, according to CONEVAL.

Based on the incidence of extreme poverty and poverty, the states may be classified into a typology. In the first group are those states in which the majority of the population is extremely poor — 18 states from Chiapas to Durango. The second group contains states where the majority of the population is in a situation of moderate poverty. In this group, there are six states. In the last group are eight states where non-poor people make up the majority of the population.

Figure II.7 shows the social stratification of IPMM considering these three poverty strata: very high, high and moderate, and three non-poor strata: minimal satisfaction, middle class and high stratum. Among the three non-poor strata, the greatest numbers are overwhelmingly in the middle class. This is the case in 28 states. Only in four states minimum satisfaction population is more numerous (Hidalgo, Guanajuato, Tamaulipas and Jalisco). The distribution by strata of the population shows a significant heterogeneity between states. The states located at the lower end are Chiapas and Guerrero, with total presence of the non-poor of 9% and 13.2%. The top two are Mexico City and Nuevo León, with very substantial non-poor shares: 41.2% and 43.6%, respectively.

Figure II.7
Social structure in Mexico according to IPMM: three poor and three non-poor strata by state, 2020
(Percentages)
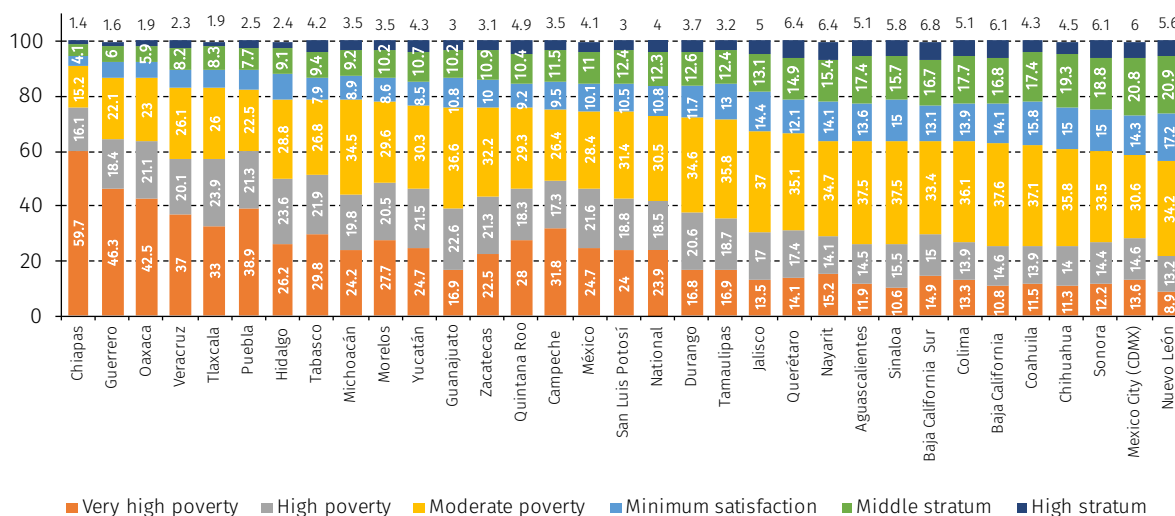
Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020, 2021 [online] https://www.inegi.org.mx/programas/enigh/nc/2020/.

Figure II.8 shows the ordering of states by the number of poor and extremely poor people. Estado de México is, by far, the state with the highest numbers of poor and extremely poor. The reason is that, also by far, Estado de México is the most populated state. The large population combines with the state's incidence of poverty, whether extreme or moderate, which is slightly above the national average. Figure 9 shows that the order of the states is different than when they are classified by incidence. For example, Veracruz has the second most numerous poor population. It is also second by extreme poverty and ranks among the highest for moderate poverty. But Chiapas ranks sixth by number of poor and second by extreme poor. Half the country's poor are concentrated in seven states (Estado de México, Veracruz, Jalisco, Puebla, Mexico City, Chiapas and Guanajuato). In 12 states (including Michoacán, Oaxaca, Nuevo León, Guerrero and Tamaulipas), the proportion of poor stands just over 2/3 (67.3%).

Figure II.8
Mexico: classification of states based on the total number of poor and extreme poor according to IPMM, 2020
(Million people)
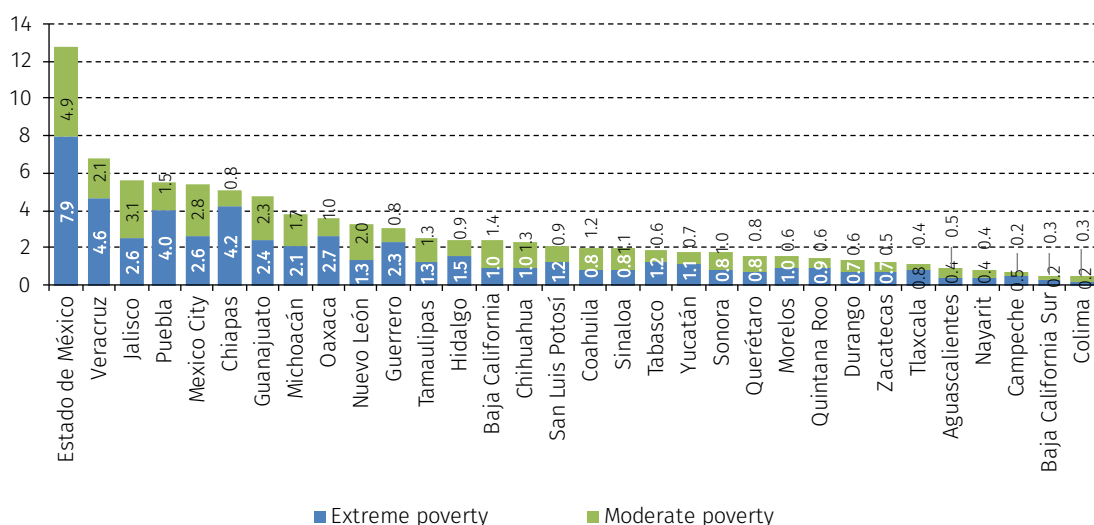
■ Extreme poverty ■ Moderate poverty

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), 2020, 2021 [online] https://www.inegi.org.mx/programas/enigh/nc/2020/.

It should be noted that the analysis by areas shows that extreme poverty predominates in the rural areas of 24 states. In most of them (19), extreme poverty represents even more than 50% of the population. In the remaining eight states, moderate poverty predominates (Coahuila, Sonora, Nuevo León, Colima, Aguascalientes, Jalisco, Nayarit and Baja California). In rural areas of all states, the non-poor population is a minority. Now then, in urban areas, extreme poverty predominates in 16 states, with incidences ranging from 65.7% (almost 2/3) in Chiapas to 35.8% in Zacatecas (just over 1/3). In three states, moderate poverty predominates (Tamaulipas, Durango and Jalisco), while in the remaining thirteen states, the non-poor population is the majority, with values ranging from 35.3% in San Luis Potosí to 44.8% in Nuevo León.

As has already been pointed out, neither the incidence nor the number of poor people are adequate ways to classify the states. The most appropriate classification standardizes states by intensity, in order to obtain equivalent incidence (HI) and equivalent poor (qI). For this reason, the states are here ranked according to the values of those aggregate poverty measures. As seen in the different forms of the bar graph and the line graph in figure 10, there is a low correlation between equivalent incidence (HI) and equivalent poor (qI). This is because the population size weighs heavily on the equivalent poor indicator. Chiapas and Guerrero rank first and second by equivalent incidence. This also occurs when their urban and rural populations are analysed separately. At the other end, the last places in equivalent incidence are occupied by Baja California and Nuevo León. Equivalent incidence varies from 0.49 in Chiapas to 0.16 in Nuevo León.

Nationwide, the highest number of equivalent poor people is in Estado de México, followed by Veracruz and Chiapas. In urban areas, the first position also is for Estado de México, followed by Mexico City and Puebla. In rural areas, the top place by equivalent poor is occupied by Chiapas, followed by Veracruz and Oaxaca. Estado de México ranks fourth. The number of equivalent poor ranges between 4.98 million in Estado de México and 0.14 million in Colima.

Figure II.9
Mexico: equivalent incidence (HI) and equivalent poor (qI) in the states, 2020 (based on IPMM)
(HI as percentage, qI in millions)
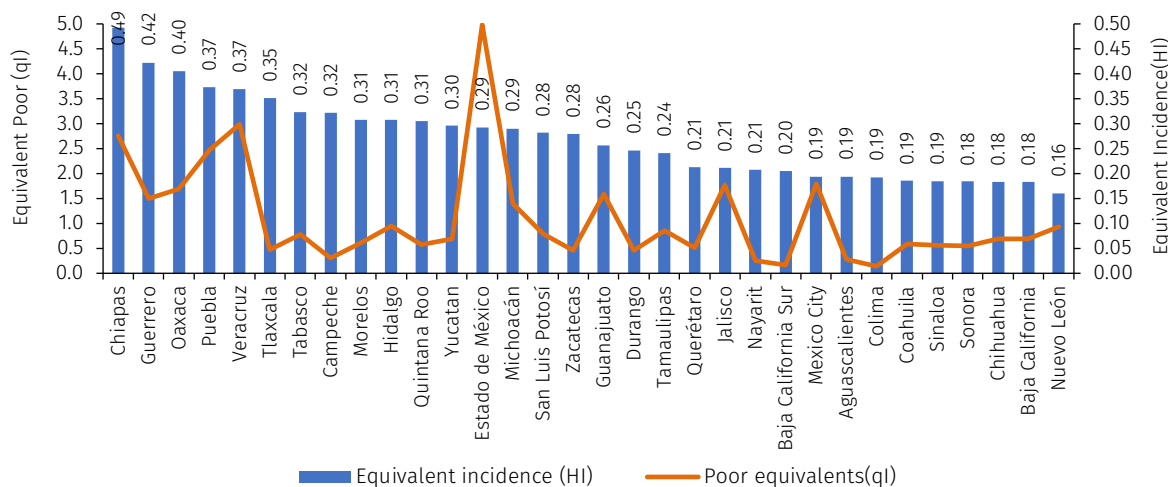
Source: Prepared by the authors.

E.   Policy proposals derived from the findings

Based on the levels of poverty and extreme poverty resulting from the IPMM, it follows that, in a country with three-quarters of the population living in poverty, the anti-poverty policy cannot target specific groups. The policy must have a universalist scope and reach all poor people, whether they live in extreme or moderate poverty. The anti-poverty policy must be implemented in both urban and rural areas. Although the medium- and long-term objective must be the total eradication of poverty in both environments, the priority in the short- and medium- terms should be to reduce the inequality of the living conditions in both realms.

This research does not aim at explaining the observed levels of poverty. However, given the overwhelming magnitude of the problem, poverty must be tackled both by influencing the distribution of income and wealth (which is highly unequal in the country) and by fostering economic activity (which has stagnated in past decades). It is striking that the contrast between rural and urban areas in the unsatisfied basic needs component of IPMM is sharper than for other components, as this contrast entails that, to fight poverty, policies must emphasize social issues (including sanitary adequacy) in rural areas.

The equivalent poor indicator is the yardstick for allocating resources to anti-poverty policy. Assuming, for a moment, that the short-term objective of reducing rural-urban inequality is set aside, then each political-administrative unit should have funds for anti-poverty policy. Those funds should be a proportion of the total national resources, and that proportion should be equal to the ratio given by the number of equivalent poor people in that unit (that is, the local deprivation mass) over the nationwide number of equivalent poor (that is, the national deficiency mass). With the guidance provided by this rule and by the measurements contained in this study, it is possible to calculate the total cost of poverty eradication. That cost may be distributed over the next ten or more years, according to a plan to eradicate the poverty that existed in 2020. Given the disaggregation by states (into their respective urban and rural portions), such a plan could be disaggregated with minute territorial detail.

Combating extreme poverty and moderate poverty separately has many problems that make it inadvisable. First, as amply demonstrated by the evaluation of the Progresa-Oportunidades-Prospera programme, targeted policies do not work because the population's living conditions are unstable. As people enter and exit poverty all the time, full annual surveys would be necessary to know the updated situation of each household/person. Another problem is that extreme poverty is more common in urban than rural areas, so rural targeting does not make much sense.

Although a typology by dominant group in each state (extreme poverty, moderate poverty or non-poor population) could serve as a starting point for developing a range of anti-poverty policy strategies, to be truly useful, such a typology should be furtherly elaborated. This elaboration goes beyond the scope of the present study, mostly due to limited time. However, it is necessary to define a state component of the anti-poverty policy, which the federal administration should decentralize to the other two levels of government.

IPMM shows that there are more equivalent poor people for the income and time components of the method than in the unsatisfied basic needs component. Therefore, income and time should become the most important element of anti-poverty policy. The most viable path is through the implementation of universal income for all citizens. This implementation could be made through a strategy of gradual coverage by age and sex groups. In time, the fight against poverty involves higher hourly wages (so a shorter working day would be viable) and promoting social care for people requiring it. It is also related to reducing commuting time (or its elimination through remote work). As for unsatisfied basic needs, establishing an uncommodified and disalienating universal welfare State is the only viable way.

Bibliography

Alarcón, D. (1993), "Changes in the Distribution of Income in Mexico during the Period of Trade Liberalization", PhD thesis, Riverside, University of California.

Alkire, S. and J. Foster (2007/2008), "Counting and multidimensional poverty measurement", *OPHI Working Paper*, No. 38, Oxford University.

Beccaria, L. (n/d), "Enfoques para la medición de la pobreza", *Documentos de trabajo*, No. 1, Buenos Aires, Centro Interamericano para el Desarrollo Social, Organization of American States (OAS).

Boltvinik, J. (2011), "Medidas agregadas de pobreza. Heurística de las medidas tradicionales: crítica de las sensibles a la distribución entre pobres, y propuesta de una medida sensible a la distribución entre pobres y no pobres", *Revista del CIECAS-IPN*, No. 25, vol. VII, Mundo Siglo XXI.

_____ (2010), "Propuesta de medición de la pobreza con base en principios de la medición multidimensional de la pobreza", *Medición multidimensional de la pobreza en México*, J. Boltvinik and others, Mexico, El Colegio de México/National Council for the Evaluation of Social Development Policy (CONEVAL).

_____ (1996), "Evolución y magnitud de la pobreza en México", *Estudios demográficos y urbanos*, No. 32, May-August.

_____ (1992), "El método de medición integrada de la pobreza: una propuesta para su desarrollo", *Comercio Exterior*, vol. 42, No. 4, April.

Boltvinik, J. y A. Marín (2023), "Brechas de pobreza rural en México: magnitud, evolución reciente y distribución territorial", *Project Documents* (LC/TS.2023/26-LC/MEX/TS.2023/3), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC)/International Fund for Agricultural Development (IFAD).

ECLAC (Economic Commission for Latin America and the Caribbean) (2021), *Panorama Social de América Latina, 2021*, Santiago de Chile.

CONEVAL (National Council for the Evaluation of Social Development Policy) (2009), *Metodología para la medición multidimensional de la pobreza*.

COPLAMAR (Coordinación General del Plan Nacional de Zonas Deprimidas y Grupos Marginados) (1983), *Macroeconomía de las necesidades esenciales*, Mexico, Siglo XXI Editores.

Evalúa CDMX (2019a), *Descripción del Método de Medición Integrada de la Pobreza (MMIP) y umbrales que utiliza* [online] https://www.evalua.cdmx.gob.mx/storage/app/uploads/public/5d4/f7b/220/5d4f7b220e3a3400651751.pdf.

_____ (2019b), Metodología de ajuste de los datos del ingreso de los hogares de las Encuestas Nacionales de Ingresos y Gastos de los Hogares a Cuentas Nacionales [online] https://www.evalua.cdmx.gob.mx

INEGI (National Institute of Statistics and Geography) (n/d), Cuentas por Sectores Institucionales [online] https://www.inegi.org.mx/temas/si.

_____ (2021), National Household Income and Expenditure Survey (ENIGH), 2020 [online] https://www.inegi.org.mx/programas/enigh/nc/2020/.

Levy, S. (1991), "Poverty alleviation in Mexico", *Working Papers*, Washington, D.C., World Bank, May.

Lustig, N. (1990), *The Incidence of Poverty in Mexico: 1984: An Empirical Analysis*, The Brookings Institution, October.

Orshansky, M (1965), "Counting the poor: Another look at the poverty profile", *Social Security Bulletin*, vol. 28, No. 1, Washington, D.C., U.S. Department of Health, Education and Welfare.

Rowntree, S. (1941), *Poverty and Progress*, London.

_____(1937), *The Human Needs of Labour*, London.

_____(1902), *Poverty. A Study of Town Life*, London.

Rowntree, S. and G. R. Lavers (1951), *Poverty and the Welfare State*, London.

Sen, A. (1992), "Sobre conceptos y medidas de pobreza", *Comercio Exterior*, vol. 42, No. 4, Mexico.

_____(1981), *Poverty and Famines: An Essay on Entitlement and Deprivation*, Oxford, Clarendon Press.

World Bank (2000), *Global Economic Prospects and the Developing Countries*, Washington, D.C.

Chapter III
How to measure inequality? A proposal to adjust income distribution in El Salvador, Guatemala and Costa Rica[1]

Miguel Calderón Chelius

Introduction

This chapter aims to measure socioeconomic inequality based on the income of households in Costa Rica, El Salvador and Guatemala, proposing a method to adjust such income to each country's National Accounts. This adjustment is required because surveys tend to underestimate household income, which is reflected in the difference in registration with the National Accounts. When comparing the two sources, the magnitude of the underreporting is known, but its distribution is not deduced. It would be a mistake to impute income that is evenly underreported or to allocate it using the distribution shown by the surveys because the distribution of the underestimation is uneven. In other words, the problem with measuring inequality based on income and its distribution, as reported in unadjusted household income surveys, involves assuming that the distribution hides inequality. Various studies have shown how underreporting in surveys mainly conceals the income of the highest decile, even beyond the richest centile of the population (Del Castillo, 2015; Esquivel, 2015; Reyes, 2016). The adjustment to National Accounts makes it possible to allocate resources that surveys fail to incorporate based on well-founded assumptions about their distribution.

First, this chapter studies economic inequality, including the distances in access to income between the different social strata. It also presents an overview of some positions on using National Accounts to adjust income distribution. It then analyses the economic inequality gap in each country. Some data on income distribution are presented for this purpose, fundamentally analysed with the Gini index, the most generalized method to measure inequality.

Third, it describes the method used to calculate income inequality with adjustment to National Accounts, considering the data sources available for each country and the particularities of the method according to the variables of these sources. Fourth, it presents the results obtained using the income recorded in different countries' surveys before and after adjustment to National Accounts. The principal indicators to account for this are the Gini index and the distribution of deciles. Finally, it presents some general conclusions concerning the main results on inequality, the survey information and the challenges the different countries face in measuring it.

A.   Economic inequality

Inequality implies a social relationship with others; it does not exist as a characteristic of people but of social relationships. Inequality has two sources: those inherent to people's very nature and those strictly social. The first source is about difference, which has a positive or negative social value. It endows people with advantages or disadvantages that have nothing to do with their actions or social development but

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[1]   This chapter is a synthesis of M. Calderón, "Ajuste a la distribución del ingreso en Costa Rica, El Salvador y Guatemala", *Project Documents* (LC/TS.2020/231-LC/MEX/TS.2022/32), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC), 2022a.

strictly with the values that society assigns to those characteristics. In the second source, strictly social inequalities are linked to components of social functioning, such as income. Both spheres interact in practice, so all inequalities imply a social relationship that reflects the prevailing normative systems.

Inequality manifests in various social dimensions, but economic inequality summarizes these inequalities in many ways. According to García Rocha (1986: 15), inequality refers to the fact that a set of economic magnitudes, or of any other nature, are different. However, these differences do not suffice without a moral reference that classifies them as fair or unfair. The concept of inequality has an evaluative framework that directly refers to social justice (Atkinson, 2016; Sen, 2019). Inequality cannot be viewed as amoral because it does not start from individuals' inherent differences but refers to differences in the social order, originated by the particular organisation and distribution of wealth, power, social roles and knowledge (Frankfurt, 2016).

Undoubtedly, inequality can only be analysed with a benchmark. In terms of income, it is as valid to think of reducing high levels of poverty as reducing those of wealth. Still, absolute economic equality cannot be the achievable objective. Instead, one should think about having a more balanced society in the distribution of income, or what has been called economic egalitarianism, where all citizens have similar incomes. This, however, grants some permissible inequalities, such as a higher income to workers with special abilities or outstanding activities. In other words, this type of egalitarianism aims for everyone to have "enough," but not the same things (Frankfurt, 2016). This can be subject to criticism, especially when thinking about the measurement of adequacy; for example, the calculation of the income required to meet human needs usually starts from poor people's lifestyles or their tastes stemming from their adaptation to poverty and their class conditions, as pointed out by Bourdieu (1998).

Some studies on economic inequality (Altimir, 1987; ECLAC, 2018; Piketty, 2020) emphasize that the problem is poverty and income inequality. This leads to clarify that poverty and inequality are not the same. Overall, poverty can be thought of individually or collectively from a point of reference. For example, one of Peter Townsend's greatest contributions was to insist that poverty is not an absolute state but a relative deprivation. He noted that new needs develop over time; thus, individuals and families who live in poverty do so because they have fewer resources than the average family in a given context (Boltvinik, 2011).

In other words, although Townsend refers to relative poverty, its reference is a certain distance from a starting point closer to inequality. On the other hand, absolute poverty refers to the distance from a threshold of satisfaction of human needs regardless of the whole population. Even from a relative perspective of poverty, this threshold is established by considering the conditions of the entire population. Individuals, households, communities or regions are compared according to that threshold. For inequality to exist, a comparison must be made with other members of society. Inequality does not establish a threshold but instead measures the distance between members of society, whether the starting point is above or below the poverty line or a society guarantees high levels of well-being to those with the lowest income. The distance between them is all that matters (Calderón, 2022b).

Both approaches (poverty and inequality) show elements that make it possible to assess the functioning and structure of society. Poverty indicators need to be mediated with a much more detailed interpretation, whereas these distances in inequality directly represent the social structure. However, the relationship between poverty and inequality cannot be denied since the former finds one of its causative elements in the latter; for example, countries with the highest inequality have the highest poverty rates (according to the OECD, Mexico, Turkey and the United States) (Therborn, 2016).

Inequality has expressions in different aspects of social life. It is expressed in ethnic differences, gender, age and national origin. But regardless of the element with which this inequality is expressed, it is usually linked to differentiated access to resources. Thus, those discriminated against because of their ethnic or national origin will generally see a lower income as one of the effects. Gender inequality implies, among other things, lower wages. Although many exceptions can be found when reviewing individual cases, the consistency with which groups have some exclusion can be verified when analysing the conditions of specific groups. Such an exclusion is reflected in lower access to economic resources (Nussbaum, 2002).

Piketty (2014) points out that income inequality has two types of perceptions: one stemming from labour income and one from capital. Income from work mainly comes from wages and salaries but also from non-wage income; this is particularly true in societies with large sectors working in the informal sector. Capital income can have various sources: property income, dividends, interest and profits, to mention a few. The more unequally distributed these are, the higher the levels of inequality in societies. Measures to approximate this inequality rarely differentiate between these types of income and thus do not take its different dimensions into account, especially considering that capital inequality is much greater than labour inequality.

Without taking away from the need to analyse inequality in all its aspects, the analysis of economic inequality is considered one of the central factors that allows a better understanding of other forms of inequality. Economic inequality may be approached by comparing the income of individuals and households and measuring the distances between the members of society.

B.   Income distribution and poverty

The conceptualisation of poverty is varied and encompasses various dimensions, including non-material and symbolic ones. In this sense, measurements have been diverse.[2] The approach to inequality from the income poverty dimension seeks to return to the idea that people can meet their basic needs. The measurement of this type of poverty refers to the income needed to access a basic food basket (based on certain essential goods and services) and social protection (ECLAC, 2018).[3] Latin America has followed the latter position based on the work of Altimir (1975), who provided comparable estimates of income poverty in several countries in the region.[4]

In contrast, inequality is studied from how income is distributed. In general, inequality indices have sought to summarize how a variable is distributed in a group of people or families. The measures used to observe the income distribution include the Lorenz curve, the Gini index, the Theil index and the Atkinson coefficient (Sen, 2021). The first two correspond to previously structured measures (their distribution is orderly), and the last two are a function of average income values (Medina, 2001). It should be noted that this makes their comparison impossible since inequality measurement is structured differently. Among these methods, the Gini index is used the most.

The Lorenz curve makes it possible to graphically view a population's income distribution from a diagonal, where the horizontal axis (X) corresponds to the accumulated population percentage and the vertical axis (Y) has the accumulated percentage of income. The points under the diagonal (which supposes income equality among all individuals) are joined, forming the curve. The closer the distribution is to the diagonal, the more equitable it is (Lora and Prada, 2009; Atuesta, Mancero and Tromben, 2018).

Diagram III.1
Gini index and Lorenz curve

Gini index

The Gini coefficient is calculated as a ratio of the areas in the Lorenz curve diagram.
This curve is the curve that tells the difference between accumulated income and distributed income.
If the area between the line of perfect equality (a line with a slope of 45°) and the Lorenz curve is A, and the area below the Lorenz curve is B, then the Gini coefficient is A/(A+B).
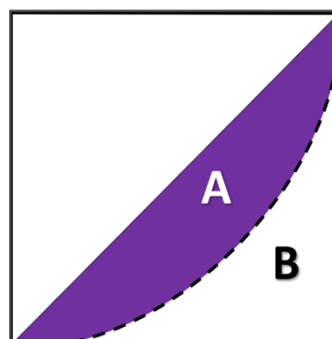
Source: Prepared by the author.

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[2]   See ECLAC (2018); Boltvinik and Damián (2020).
[3]   For more details on the methodology for calculating income poverty, see ECLAC (2018).
[4]   Another measure used internationally to determine income poverty, proposed by the World Bank (2000), is based on purchasing power parity, establishing one dollar a day as an extreme poverty line.

The Gini index is a ratio that calculates the area between the Lorenz curve and the diagonal as a proportion of the total area under the diagonal (Lora and Prada, 2009). This index yields values between 0 and 1. The closer to 0, the greater the equality in income distribution, but the closer to 1, the greater inequality (Medina, 2001).

The Theil index is an indicator that can be disaggregated between and within groups because, as mentioned, its reference point is average income. If income were distributed equally, its value would be 0; if it were 1, the distribution would be unequal (Lora and Prada, 2009). The Atkinson index allows individuals to be weighted differently based on their income distribution, and it is sensitive to transfers at the bottom of the distribution. This index is considered flexible because the weights are not given and can be assigned by the researcher. They are known as "aversion to inequality," with values ranging from 0 to 1, where 0 represents total equality, and 1 is total inequality. As this "aversion to inequality" approaches 1, the Atkinson index becomes more sensitive to income distribution changes at the lower end. In contrast, when this aversion nears 0, the Atkinson index becomes more sensitive to changes in income distribution at the upper end (Atuesta, Mancero and Tromben, 2018).

As shown in figure III.1, the Gini index report made by the World Bank between 1985 and 2020 based on official information shows very different behaviour in each of the selected countries (El Salvador, Guatemala and Costa Rica). Without delving into the quality of each country's information, making a first approximation for the three is possible. Regarding El Salvador, the Gini index shows an accelerated fall that could only be possible in a context of prosperity and very aggressive redistribution policies. In Guatemala, the need for more information is obvious. Costa Rica has the most consistent index behaviour and remains within a range that has moderate rises and falls, but it is evident that inequality has worsened from the 1990s to the present.

This study used the Gini index as an indicator of income inequality. Also, National Accounts must be adjusted because the income distribution calculations are based on household surveys in countries that underestimate the wealthiest incomes. The methodologies to cover this bias have been varied and are addressed in greater detail in the next section.

Figure III.1
Gini index in El Salvador, Guatemala and Costa Rica, 1985-2020
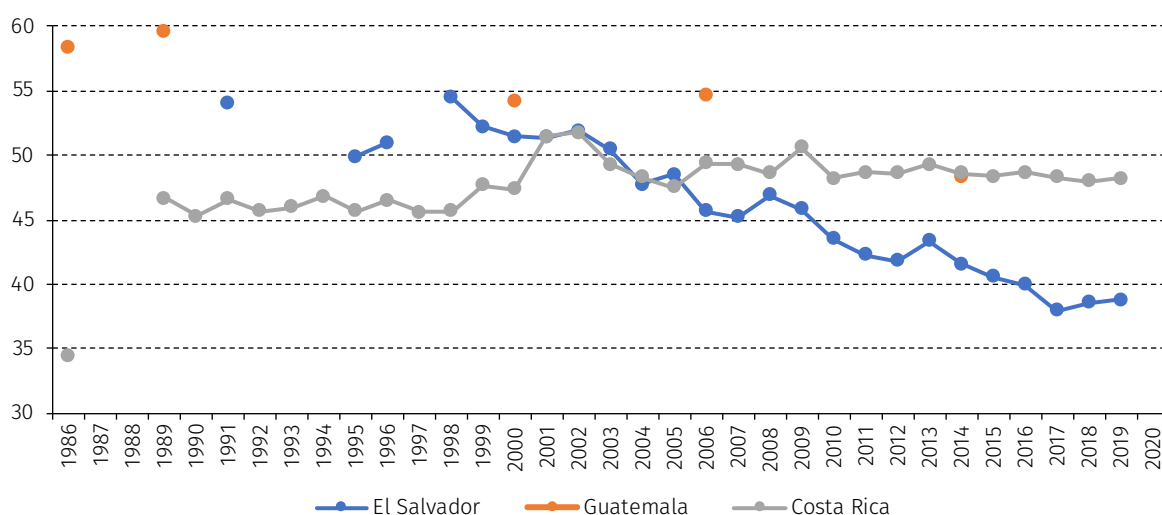
Source: Prepared by the author, on the basis of the World Bank, World Bank Open Data: Gini index, 2021 [online database] https://datos.bancomundial.org/.

C. Adjustment of inequality with National Accounts

Several studies from the 1950s and 1960s adjusted the surveys' income considering the National Accounts system. Later, in the 1990s and early in the 21st century, a series of investigations that did not adjust National Accounts focused on studying income inequality. This trend changes when one observes that the surveys underestimate income, which, as pointed out above, affects all households, particularly those with the highest incomes (the rich), resulting in inequalities in the measurements that account for income distribution (Del Castillo, 2015). The methodologies to make this adjustment have been varied, some of which are summarized below with their main assumptions.

Between the 1950s and 1960s, Navarrete (1960) proposed points to be taken into account to adjust national accounts, namely that income declaration is more reliable in households with balanced budgets; income is underreported in households with more expenses than income (particularly income in kind, transfers or other sporadic income); and the group of people that can save is very small, so groups that potentially save will be the most likely to deliberately underreport income. Such understatement will be proportional to the income level, and its magnitude will correspond to the difference between the income reported in the survey and the national income in National Accounts (Navarrete, 1960; Altimir, 1982).

Later, Altimir (1975 and 1982) made a proposal in the 1970s and 1980s assuming that income is underreported due to the type and not the level of income; the magnitude of the underreported level of income corresponds to the difference between the type of income recorded in the National Accounts and that of the survey (considering a positive discrepancy);[5] the underreporting of the different types of income is proportional to each change in the type of income (unit elasticity, except for property income); and the underreporting of income from property lease is concentrated in the quintile of households with the highest incomes (Altimir, 1975 and 1982).

At the start of the 21st century, Hernández Laos (2001) used a methodology similar to Altimir's to adjust the income distribution in Mexico considering different types of income (from work, business income and property), assuming that underreporting is due to the type of income and has unit elasticity (except property income). It also considers non-monetary income (Hernández-Laos, 2001, p. 866).

The proposals for adjustment to National Accounts have been met with some criticism. For example, Leyva-Parra (2004) points out that the adjustment is based on the assumptions that the concept of income used is comparable in both data sources, that the income figures produced by National Accounts are similar to those of the income surveys, and that the differences between the two data sources are mainly due to underestimation problems rather than truncated cases. Furthermore, he indicates that an optimal allocation from the macro level (National Accounts) to the micro level (households) can only be achieved by knowing which part of the discrepancy in the surveys corresponds to the underreport and which to the truncation.[6] He also indicates the importance of being underreported and truncated, which can occur with the highest-income population. In other words, the survey does not represent those with the highest income, which would imply that the second assumption is not fulfilled (Leyva-Parra, 2004; Bustos, 2015).

On the other hand, Cortés (2001) suggests that income surveys underestimate income for two reasons: problems with the survey and sampling frames and underrepresentation of certain high-income social sectors and the poorest, which are unlikely to be selected. The author attributed this to a truncation effect and not to underestimation. Therefore, similar to Leyva-Parra (2004), Cortés states that the adjustment to National Accounts would be suitable if there is an underestimation but not a truncation. The author notes that such an adjustment would distort the distribution since there would be no counterpart to the reality of the real income of the excluded households (the poorest and the richest).

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[5]   The survey is considered valid if the difference is negative (the income reported in the survey is higher than that of the National Accounts) and no problems are recorded in the survey (Altimir, 1982).
[6]   Truncation refers to when surveys omit income and other variables in the highest and lowest socioeconomic strata.

Piketty (2014) indicates that one way to study the unequal income distribution presented in the surveys is to analyse the 10th decile, which includes the wealthiest families, and to consider income before taxes. This group is not only relevant in income concentration but also numerically. Piketty proved this for France and the United States, where the top percentile in 2013 represented around 500 000 and 2.6 million people in each country, respectively.

In general, the positions that have criticized adjustments with National Accounts state that the information from household surveys and National Accounts are not comparable, that the consumption recorded in the surveys is growing at a slower pace than that of the National Accounts, and that the difference in income from surveys and National Accounts must be distributed proportionally. Considering the different opinions on adjustment with National Accounts, Del Castillo prepared a proposal that considers the following points, which have been used as a reference for the proposed adjustment method:

- Assess the quality of information from data sources to analyse income distribution.
- Since the consumption figures from the household surveys are not comparable with the National Accounts, use income data to make the adjustment.
- Consider the type of income, and when there is a difference, distribute it without assuming neutrality in said distribution.
- Surveys should not have truncated cases; they should exclude the very poor or the very rich (Del Castillo, 2015, p. 30).

D.   Poverty and inequality in the selected countries

Inequalities of all kinds, especially economic inequality, promote not only the concentration of economic power but also that of political power. Highly unequal societies with large segments of the population living in poverty cannot consolidate political stability and build citizenship relationships because this implies a minimum level of horizontality provided by the most egalitarian societies (Marshall, 1998). The first step in implementing social and economic public policies that promote equality and poverty reduction is to make the information on these conditions as accurate as possible. For poverty, this means defining what it entails, gathering information on all the variables that are considered relevant and having an appropriate measurement method. For economic inequality, what is measured are distances, in this case, income, so an appropriate method is required.

In the poverty sphere, it is common to find various estimates that may vary depending on the interpretation of the concept and the method used to measure it. However, debates persist about its definition and the appropriate methodology to address it (Boltvinik and Damián, 2020). On the other hand, in the case of inequality, of the several indices that are widely recognized and frequently used, the Gini index is the most prominent. According to ECLAC (2020) measurements, the poverty and income distribution data for Guatemala, Costa Rica and El Salvador allow for some general observations. Of the three selected countries, Costa Rica reports the lowest poverty at household and individual levels in all the studied years. El Salvador and Guatemala resemble each other, at least in 2014, when the latest information on poverty and inequality was collected for Guatemala. Comparing El Salvador and Costa Rica in 2020, a downward trend in poverty and inequality is observed in El Salvador. In contrast, Costa Rica has a slight increase in the different figures with a marginal reduction in the Gini (see table 1).

Table III.1
Selected countries: estimation of poverty and inequality, 2000, 2014 and 2020

Year	Guatemala	Costa Rica	El Salvador
Poverty (percentages of people)			
2000-2002[a]	56.6	28.0	50.6
2014	43.1	17.5	44.5
2020	--	19.4	30.7

Year	Guatemala	Costa Rica	El Salvador
Poverty (*percentages of households*)			
2000-2002[a]	46.9	25.2	44.2
2014	43.1	14.4	38.0
2020	--	15.4	27.2
Inequality (*Gini index*)			
2000-2001[a]	0.636	0.497	0.514
2014	0.535	0.498	0.434
2020	--	0.490	0.421

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America*, Santiago, 2020a.
[a] 2000 for Guatemala, 2002 for Costa Rica and 2001 for El Salvador.

All three countries show a very significant reduction in poverty. However, the case of El Salvador is particularly relevant given the magnitude of the decrease. This would require a review of the definition, data sources and methodology. UNDP supported a group of Latin American countries to incorporate a multidimensional poverty measurement based on the Alkire-Foster method (Alkire and Foster, 2011), which does not include income. Therefore, a general double measurement covering income and multidimensional poverty (which does not include income) has been made. It should be noted that there are no different types of poverty but different methods; there are no income poor or multidimensional poor. The change lies in how they are identified and quantified. In principle, the aim is to observe the population in this situation. This is the case in Guatemala, Costa Rica and El Salvador. In general, as the authors (Alkire and Foster, 2011) point out, the method complements the World Bank's, which seeks to identify the most extreme conditions of poverty.

Regardless of the criticisms on the different methods to measure poverty, it is clear that how it is measured will affect what is shown and its trends. Such is the case of inequality in income distribution because the same surveys are used. Problems in income integration are also reflected in the measurement of economic inequality. One problem with inequality measurements is that they only measure some income, and the very nature of the instruments used alters income distribution. Adjusting to National Accounts seems urgent to measure poverty and, above all, measure income distribution. However, this is challenging due to the lack of information and the inconsistency in the information sources generated by the different countries. The above makes clear the need to improve the generation of statistical information not only for these countries but for the Latin American region, and not only in the indicators presented in this document (poverty and income distribution) but for all those variables that make it possible to reliably know the economic and social situation of the countries.

E.   Method for adjusting to National Accounts

This section describes the method followed to adjust income to National Accounts and the subsequent calculation of the Gini index. First, the data sources chosen from the analysis made in the previous sections are specified. Second, the general method is presented conceptually. Third, the methodology adapted to each country's case is presented based on the available information and its conditions.

1.   Data sources in each country

The available information is crucial for adjusting to National Accounts. On the one hand, each country's National Accounts are used, which were previously analysed in general. Total household income is estimated from these. On the other hand, national surveys are used to obtain household income and calculate the Gini index, which is the indicator chosen to evaluate the inequality in each country: for Costa Rica, the 2018 National Household Income and Expenditure Survey (ENIGH 2018); for El Salvador the 2019 Multipurpose Household Survey (EHPM 2019); and for Guatemala the 2019 National Employment and Income Survey (ENEI 2019). These surveys were the best option considering the information they contained, the period they analysed and the availability of data with National Accounts. It should be noted that the data sources presented various difficulties and inconsistencies when calculating the

income in the survey and problems when adjusting income to National Accounts. These problems and how they were dealt with are in the "results" section.

The period of inequality analysis was set just before the pandemic started, which is why sources of information from 2019 were sought. The information available for Costa Rica corresponded to 2018, but the income surveys for El Salvador and Guatemala are more recent (2020 and 2021). However, since the COVID-19 pandemic may have affected information collection in those years, data from 2019 was chosen instead because it could have fewer problems than the later surveys.

The pandemic altered all countries' economic structures, and its effects will have greater or lesser depth and permanence. However, to suitably analyse the underestimation of inequality, it was considered best to consider the period before the pandemic. In addition, since many countries have not updated their information, using each country's most recent survey could imply adjusting for different conditions, in some cases before and others in the middle of the pandemic. The information during the worst stage of the economic crisis also implied assuming distortions as a result of the crisis and distortions in the information caused by the restricted conditions in which the survey was conducted. In any case, this exercise should be repeated with surveys from 2022 or 2023 to see the effects on inequality.

2.   General method

A multi-stage National Accounts adjustment method was designed. Various phases or stages were adjusted. Given the difficulties in accessing information and complementary sources, adjustments were made from two primary sources, namely National Accounts and household surveys, using the survey structure to allocate resources non-neutrally. A specific household survey was selected, and each country's National Accounts were used for each case. The National Accounts and the surveys have limitations that require a relatively gross adjustment without further detail because it is impossible.

Based on the general model explained below, each country's information has been worked with as much as possible, given the various limitations of each data source. We must not lose sight of the fact that the analysis focuses on household income inequality, so the adjustment refers precisely to this item to match the income identified in the National Accounts with the household income identified in the surveys. Nevertheless, this adjustment reflects the actual distribution of these resources as best as possible.

The adjustment is made by distributing the differences found without assuming neutrality. In other words, the weights relative to the different types of income, not the survey's general distribution, are taken: job wages, income from self-employment, income from financial assets and property. The steps to consider in such a distribution are:

- Income from wages and salaries. Classify wages according to position at work to allocate the difference with declared remuneration on a proportional basis.
- Income from self-employment. Determine the number of self-employed workers and those who reported income from their businesses, and proportionally assign them the income corresponding to them according to their position at work.
- Rental income. In this type of income, interest, earnings or income from shares or financial assets must be differentiated. For this purpose, such income will be allocated from the data recorded in each country, granting the corresponding value (interest, earnings, performance) to those who mentioned having this type of income.

The adjustment considers national household income (also called market income, that is, without including taxes and transfers) as the sum of the income from work and capital of each of its members; thus, the size of the household and its demographic composition at the time of the adjustment are implicitly considered. The income distribution per household is calculated from the sum of its members.

The general method:

- Analyses the structure of the National Accounts and identifies the items considered in household income.

- Analyses the surveys and identifies household income items, identifying items that coincide with national accounts:
  - Wages
  - Self-employed
  - Rent
- Matching items are those in which the adjustment is made in several stages, consisting of:
  - The incomes from National Accounts and surveys are compared for each matching item (wages, self-employed and rent), and the difference is calculated. The income identified as missing in each item of the surveys is adjusted to the surveys.
  - In *wages*, the recipient's position is identified, and each recipient's income proportions in their occupation and position stated in the survey are obtained.
  - These *wage* proportions are used to allocate the resource differential by *wages* identified in National Accounts.
  - In *self-employed,* the recipient's position is identified, and each recipient's income proportions in that position in the survey are obtained.
  - These *self-employed* proportions are used to allocate the resource differential by *self-employed* identified in National Accounts (as mixed income).
  - In *rent,* the various types of *rent* and their proportions within the survey are identified.
  - These *rent* proportions are used to allocate the resource differential by *rents* identified in National Accounts.
  - Household income and the Gini index are recalculated once the missing resources are assigned in the surveys.

One problem with the adjustment to National Accounts is that the income not reported by the surveys is not distributed proportionally. In particular, the highest incomes (the so-called richest 1%) are not captured by surveys and are thus underreported, even though they account for a significant part of the income. As it is currently being carried out, the adjustment causes the income of the highest percentiles to increase significantly, which may not correspond to the actual income of the respondents. This effect results from including the income of sectors that are not captured by the survey and are represented by respondents at the top of the distribution. This makes it possible to better calculate existing inequality by adjusting the income of the upper percentiles.

3.   Method for each country

The methodology mentioned above was followed for the three countries, adjusting to the existing variables. All three cases had problems with the databases that made it necessary to reconstruct the individual and household income variables based on specific disposable incomes. This may result in slight differences from the income initially reported in the surveys.

Costa Rica has the most complete survey and the largest number of variables that can be worked on. However, household incomes were much higher in the survey microdata than those reported in the country's official sources. This seems to be explained by the differentials in the expansion factors in the household and personal baselines. The person database was the most consistent with the reports from the country's official sources. Therefore, the adjustment was made with per capita income, the respective Gini was calculated, and income was adjusted according to the general methodology. Since household income is defined as the income of the people in a household, the aggregate household income variable was constructed before the adjustment was made. The Gini was calculated with this variable, and then the adjustment was made to calculate the Adjusted Gini.

El Salvador has a survey with a single general database with the results for individuals and households. Again, inconsistencies similar to those observed in Costa Rica were identified. Income calculated with the household income variable soared inconsistently, representing more than the income identified in the National Accounts. It did not coincide with the official reports. Therefore, the household income variable was reconstructed based on per capita income under the defined principle that household income is the sum of the individual household income. On the other hand, its income in

National Accounts, which had its counterpart in the survey, could not be estimated. Therefore, national household income was estimated from the proportions observed in Guatemala and Costa Rica. Finally, the Gini for households was obtained before and after the adjustment. The adjustment was made according to the general methodology. The Theil index was also calculated before and after the adjustment was made for the three countries.

Guatemala does not present a total income variable per household or capita, so from the start, the path that Costa Rica and El Salvador later adopted was followed. Income variables were constructed per capita and household. Then, these variables were adjusted to National Accounts following the general methodology. As can be observed, the total income of individuals and households in the three surveys had to be calculated for different reasons: Costa Rica and El Salvador due to inconsistent variables and the expansion factor between households and individuals, and Guatemala due to the lack of previous variables. It is very important to insist that to make the adjustment, the amounts and their distribution in the surveys must be appropriately constructed, as when they were recalculated.

As noted in the general methodology, the adjustment was made in stages. First, the household income in National Accounts was divided by the items offered by the accounts. Second, those incomes were compared with the respective ones from the surveys to obtain the difference, the amount that had to be adjusted. Third, the proportion of income by item was calculated according to activity status and work position; these proportions were those used to distribute the missing income for each item in the surveys. This provides the elements required to calculate inequality as adjusted to National Accounts. Inequality was measured using the household Gini index. Like any adjustment methodology, this one has its limitations, basically because it considers distribution and proportions in the survey. However, it is important to emphasize that these proportions are not related to the complete distribution but by category and as a function of the position in dependent and independent work and the income distribution (when recorded).

F.   Results

The adjustment results make it possible to reassess the levels of inequality in the analysed countries at the national income level, that is, without considering taxes and public and private transfers (disposable income). In all three cases, inequality increases; in general, all incomes rise, but they increase more significantly in those with work positions usually at the top of the distribution, thus reflecting differences closer to reality. The adjustment is not precise, nor can any adjustment be. This exercise makes it possible to replace income not considered in the surveys (non-neutrally) but recorded in the National Accounts. A neutral adjustment that assigns proportional amounts as included in the surveys is rejected; in this case, the distributions reflected by the surveys by job position are used as the adjustment baseline.

The results reflected by this adjustment should be considered conservative. A more complex adjustment is impossible, given the quality and depth of the existing data. For example, income from non-work activities was considered an approximation of income and dividends in El Salvador because its survey did not record them. In National Accounts, the gross operating surplus was the comparable item; an approximation was also made for it from the data at the national level. The results presented include income inequality for each analysed country (Costa Rica, El Salvador and Guatemala), as measured by the Gini index per household before adjustment. This same indicator is presented in each case with data adjusted to National Accounts. Additionally, the income deciles for the three countries were calculated for households, again, with and without adjustment to National Accounts. These data are presented proportionally to observe the number of resources taken by each decile and compare their differences. In turn, the change in the distribution is observed when it is adjusted to National Accounts.

As mentioned, inequality is measured with the Gini index, which ranges from 0.000 to 1.000. Zero implies absolute equality: each unit, person or household, as the case may be, receives the same income. One means absolute inequality: a single unit, person or household takes all the income, and the rest receive nothing. Both situations are impossible; the first is empirical, and the second is empirical and theoretical. Therefore, the Gini index must be considered just between these two parameters. As it approaches 0, there is greater equality; as it nears 1, inequality is greater.

Costa Rica has a Gini index per household of 0.524 before and 0.606 after adjustment. This implies that despite being one of the countries considered to have the best social conditions in Central America, the level of income concentration is very high (see table III.2). In that sense, while the wealthiest 10% of households concentrate 38.32% of income before the adjustment, this concentration rises to 46.73% after the adjustment. The adjusted income of the poorest 50% represents only 28.1% of the income of the wealthiest 10% (see table III.3).

Table III.2
Costa Rica: Gini index per household with and without income adjustment to National Accounts, 2018

	Without adjustment	With adjustment
Households	0.524	0.606

Source: Prepared by the author, on the basis of Instituto Nacional de Estadística y Censos (INEC), National Accounts and the National Household Income Expenditure Survey, Costa Rica, 2018.

Table III.3
Costa Rica: income by household deciles with and without income adjustment to National Accounts, 2018
(Percentages)

Deciles	Without adjustment	With adjustment
I	1.06	0.78
II	2.23	1.69
III	3.34	2.67
IV	4.29	3.52
V	5.43	4.48
VI	6.88	5.80
VII	8.88	7.56
VIII	11.98	10.53
IX	17.58	16.24
X	38.32	46.73
Total	100.00	100.00

Source: Prepared by the author, on the basis of Instituto Nacional de Estadística y Censos (INEC), National Accounts and the National Household Income Expenditure Survey, Costa Rica, 2018.

El Salvador had a Gini index per household of 0.434 before and 0.622 after the adjustment. This means that income concentration rose (see table III.4). In this regard, while 10% of households seemed to account for 33.39% of income before the adjustment, once the adjustment had been made, this proportion increased to 48.34%. The income of the richest decile is almost the same as that of the remaining 90% (see table III.5).

Table III.4
El Salvador: Gini index per household with and without income adjustment to National Accounts, 2019

	Without adjustment	With adjustment
Households	0.434	0.622

Source: Prepared by the author, on the basis of Dirección General de Estadística y Censos (DIGESTYC), Multipurpose Household Survey, El Salvador, 2019.

Table III.5
El Salvador: income by household deciles with and without income adjustment to National Accounts, 2019
(Percentages)

Deciles	Without adjustment	With adjustment
I	0.54	0.36
II	1.76	1.14
III	3.35	2.63
IV	5.12	3.91
V	6.65	5.09
VI	8.02	6.29
VII	10.22	7.96
VIII	13.21	10.33
IX	17.74	13.94
X	33.39	48.34
Total	100.00	100.00

Source: Prepared by the author, on the basis of Dirección General de Estadística y Censos (DIGESTYC), Multipurpose Household Survey, El Salvador, 2019.

Guatemala's Gini index per household is 0.472 before adjustment and 0.631 after adjustment, which implies that the level of income concentration is very high (see table III.6). When observing the distribution by deciles, 10% of households seemed to concentrate 37.26% of income before the adjustment; however, this concentration rose to 53.95% after the adjustment. The income of the poorest 50% represents only 19.4% of the income of the wealthiest 10% (see table III.7).

Table III.6
Guatemala: Gini with and without income adjustment to National Accounts, 2019

	Without adjustment	With adjustment
Households	0.472	0.631

Source: Prepared by the author, on the basis of Instituto Nacional de Estadística (INE), National Employment and Income Survey, Guatemala, 2019.

Table III.7
Guatemala: income by household deciles with and without income adjustment to National Accounts, 2019
(Percentages)

Deciles	Without adjustment	With adjustment
I	0.22	0.12
II	1.62	1.08
III	2.94	2.00
IV	4.41	3.02
V	6.00	4.11
VI	7.47	5.25
VII	9.53	6.89
VIII	12.62	9.44
IX	17.91	14.14
X	37.26	53.95
Total	100.00	100.00

Source: Prepared by the author, on the basis of Instituto Nacional de Estadística (INE), National Employment and Income Survey, Guatemala, 2019.

In short, household income inequality increased significantly in the three studied countries when adjusted to National Accounts. El Salvador and Guatemala were affected the most, whereas Costa Rica changed the least; the latter is not negligible since it also shows an increase in inequality.

In addition to calculating the Gini index, the Theil index was estimated, showing that inequality exists, and that income is highly concentrated in the highest part of the distribution (Del Castillo, 2015). This holds especially true for El Salvador and Guatemala, which were higher than 1 and close to 1, respectively. The variation in this index after adjustment is explained by the fact that it is sensitive to the increase in the highest strata's income (see table III.8). This effect has been observed in countries where adjustment exercises are carried out, such as Mexico (Del Castillo, 2015; Esquivel, 2015). It is clear that income underestimation in the surveys used to calculate inequality is not a neutral underestimate and alters the inequality identified by underestimating it.

Table III.8
Selected countries: Theil index by households before and after adjusting income to National Accounts, different years

Country	Without adjustment	With adjustment
Costa Rica 2018	0.492	0.809
El Salvador 2019	0.409	1.389
Guatemala 2019	0.508	0.998

Source: Prepared by the author, on the basis of the 2018 Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) (Costa Rica), 2019 Encuesta de Hogares de Propósitos Múltiples (EHPM) (El Salvador) and 2019 Encuesta Nacional de Empleo e Ingresos (ENEI), (Guatemala) and from each country's National Accounts.

G.   Conclusions

This chapter discussed inequality's different expressions, showing that it is a complex concept with many aspects for analysis, and emphasized the analysis of economic inequality based on income distribution. It also considered the underreporting in the countries' income surveys and adjusted the information using the information reported in the National Accounts.

Reviewing the underreporting in surveys showed significant differences in reported household income compared to that recorded in the National Accounts. Not all National Account income items had counterparts in the different countries' surveys. However, efforts were made to incorporate incomes that considered similar aspects; such was the case of El Salvador, whose official reports record low levels of inequality compared to Guatemala and Costa Rica. The analysis of their sources of information made it possible to observe that both surveys and National Accounts have important omissions in the recorded household income, which significantly alters the calculation of income distribution. Therefore, the national income of households was estimated from the proportions observed in Guatemala and Costa Rica.

The results show that inequality increases when adjusting for income not reported in the surveys, as verified by the Gini index and the income decile distribution. In particular, Guatemala and El Salvador show the greatest changes, whereas Costa Rica has the least inequality after adjustment. This reflects the conditions that exist in each country and the income records. The decile trend is increasing but unchanging. Deciles show a high concentration of income in a small part of the population before and after adjustment. Although the trend for concentration in the upper part of the distribution remains the same, the observed concentration is significantly higher after adjustment.

Inequality is a core problem in Latin American societies, particularly in Central American countries. An adequate measurement of its impact allows societies and governments to be aware of the differences between various sectors and to design strategies and public policies capable of mitigating social inequalities, starting with income. On the contrary, there has been a tendency to highlight indicators that reflect much less inequality and to use this as an instrument that justifies emphasizing the transformation of social relationships that perpetuate inequality.

Thus, countries must apply this type of methodology to have a closer view of inequality. It would be ideal to have sources of information that do not underreport capital income and have a better registry of those who own it. The calculation methods with the variables used to estimate the inequality indicators should be public because important differences were observed between those provided by other organisations and each country's official institutes.

Future lines of research should analyse the implications of capturing and measuring inequality through each country's data sources and the contextualization of such information based on the socioeconomic and political conditions of the nations. Furthermore, their evolution must be monitored, considering complementary indicators. The COVID-19 pandemic brought economic and social implications for Latin America and the Caribbean; even the first reports provided by ECLAC indicated increased poverty and inequality in these countries (ECLAC, 2020b). Therefore, it would be important to have comparative studies to know the effects the pandemic had on inequality and the difficulties faced in gathering information while it lasted.

Bibliography

Alkire, S. y J. Foster (2011), "Counting and multidimensional poverty measurement", *Journal of Public Economics*, vol. 95, No. 7-8.

Altimir, O. (1987), Income distribution statistics in Latin American and their reliability, *Review of Income and Wealth*, vol. 33, No. 2, International Association for Research in Income and Wealth, June.

_____ (1982), "Las estimaciones de la distribución del ingreso en México 1950-1977", *Distribución del ingreso en México: ensayos: tomo I*, Ó. Altimir, Banco de México [online] https://www.banxico.org.mx/publicaciones-y-prensa/documentos-de-investigacion-del-banco-de-mexico/%7B38552EC7-2869-A659-2003-9ABFD9DEE8BB%7D.pdf.

_____ (1975), *Estimaciones de la distribución del ingreso en América Latina por medio de encuestas de hogares y censos de población*, Economic Commission for Latin America (ECLAC)/International Bank for Reconstruction and Development (IBRD).

Atkinson, A. (2016), *Desigualdad: ¿Qué podemos hacer?*, Mexico, Fondo de Cultura Económica.

Atuesta, B., X. Mancero y V. Tromben (2018), "Herramientas para el análisis de las desigualdades y del efecto redistributivo de las políticas públicas", *Project Documents*, Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).

Boltvinik, J. (2011), "Peter Townsend y el rumbo de la investigación sobre pobreza en Gran Bretaña", *La necesaria reconfiguración de la política social de México*, M. I. Patiño, D. Martínez y E. Valencia (coords.), Universidad de Guadalajara/Fundación Konrad Adenauer/Universidad Iberoamericana León.

Boltvinik, J. y A. Damián (2020), "Medición de la pobreza de México: análisis crítico comparativo de los diferentes métodos aplicados", *serie Estudios y Perspectivas*, No. 183, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Bourdieu, P. (1998), *La distinción: criterios y bases sociales del gusto*, Madrid, Editorial Taurus.

Bustos, A. (2015), "Estimation of the distribution of income from survey data, adjusting for compatibility with other sources", *Statistical Journal of the IAOS*, vol. 31, No. 4.

Calderón, M. (2022a), "Ajuste a la distribución del ingreso en Costa Rica, El Salvador y Guatemala", *Documentos de Proyectos* (LC/TS.2020/231-LC/MEX/TS.2022/32), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

_____ (2022b), *En busca del umbral de la pobreza: estructuración social de las normas de satisfacción mínimas de las necesidades humanas*, Universidad Iberoamericana Puebla-ITESO.

Cortés, F. (2001), "El cálculo de la pobreza en México a partir de la encuesta de ingresos y gastos", *Comercio Exterior*, vol. 51, No. 10.

Del Castillo, M. (2015), "La magnitud de la desigualdad en el ingreso y la riqueza en México: una propuesta de cálculo", *serie Estudios y Perspectivas*, No.167, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

ECLAC (Economic Commission for Latin America and the Caribbean) (2020a), *Social Panorama of Latin America, 2019* (LC/PUB.2019/22-P/Re v.1), Santiago.

_____ (2020b), "América Latina y el Caribe ante la pandemia por COVID-19: efectos económicos y sociales", *Informe Especial COVID-19*, No. 1.

_____ (2000), *Equidad, desarrollo y ciudadanía*, Santiago.

_____ (2018), *Medición de la pobreza por ingresos: actualización metodológica y resultados*, Metodologías de la CEPAL, No. 2 (LC/PUB.2018/22-P), Santiago.

Esquivel, G. (2015), *Desigualdad extrema en México: concentración del poder económico y político*, Mexico, OXFAM [online] https://oxfammexico.org/wp-content/uploads/2017/04/desigualdadextrema_informe.pdf.

Frankfurt, H. (2016), *Sobre la desigualdad*, Paidós.

García Rocha, A. (1986), *La desigualdad económica*, México, Centro de Estudios Económicos/El Colegio de México.

Hernández-Laos, E. (2001), "Retos para la medición de la pobreza en México", *Comercio Exterior,* vol. 51, No. 10.

Leyva-Parra, G. (2004), *El ajuste del ingreso de ENIGH con la contabilidad nacional y la medición de la pobreza en México*, México, Secretaría de Desarrollo Social (SEDESOL).

Lora, E. y S. Prada (2009), *Técnicas de medición económica: metodología y aplicaciones en Colombia.* Universidad ICESI.

Marshall, T. H. (1998), *Ciudadanía y clase social*, Editorial Alianza.

Medina, F. (2001), "Consideraciones sobre el índice de Gini para medir la concentración del ingreso", *serie Estudios Estadísticos y Prospectivos*, No. 9 (LC/L.1493-P), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).

Navarrete, I. (1960), *La distribución del ingreso y el desarrollo económico de México*, Instituto de Investigaciones Económicas-National Autonomous University of Mexico (IIE-UNAM).

Nussbaum, M. (2002), *Las mujeres y el desarrollo humano*, Herder.

Piketty, T. (2020), *La economía de las desigualdades: cómo implementar una redistribución justa y eficaz de la riqueza*, Siglo XXI Editores.

_____(2014), *El capital en el siglo XXI,* Madrid, Fondo de Cultura Económica.

Reyes, M. and others (2016), "Los salarios y la desigualdad en México", *Informe Anual del Observatorio de Salarios 2016*, Observatorio de Salarios de la Universidad Iberoamericana Puebla.

Sen, A. (2021), *La desigualdad económica*, Mexico, Fondo de Cultura Económica.

_____(2019), *La idea de la justicia*, Penguin Random House.

Therborn, G. (2016), *Los campos de exterminio de la desigualdad*, Fondo de Cultura Económica.

World Bank (2021), Datos de libre acceso del Banco Mundial: índice de Gini, World Bank Open Data | Data [online database] https://datos.bancomundial.org/.

_____(2000), *World Development Report 2000/2001: Attacking Poverty*, Oxford University Press.

Chapter IV
Demographic change and social protection gaps in Mexico, Central America and the Spanish-speaking Caribbean

Sandra Huenchuan[1]

Introduction

Social protection is constantly evolving due to its inherent relationship with societal changes. In today's circumstances, demographic change, climate concerns, alterations in families and labour markets and the epidemiological transition are among the issues social protection must handle. In a complex scenario, its adaptation is urgent to respond to people that, individually or collectively, face new risks and look for remedies against the vulnerabilities keeping them from leading decent lives.

Social protection is a human right recognized in the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights and other international instruments. Also, the 2030 Agenda highlights the importance of social protection for the Sustainable Development Goals (United Nations, 2017, p. 2). Despite these legal and political commitments, social protection now stands at a crossroads (United Nations, 2022a). This has been expressed by the International Labour Organization (ILO, 2022) and the Special Rapporteur on extreme poverty and human rights (United Nations, 2022a).

On the one hand, most of the world's population is excluded from social security (ILO, 2022), and on the other, the COVID-19 pandemic evidenced lags and disparities between and within countries. The pandemic has exposed the weaknesses of a social and economic system that has neglected to invest sufficiently in rights such as social protection and health care, revealing gaps in coverage, highlighting the inadequacy of social protection benefits and exacerbating deep-seated inequalities (United Nations, 2022b, p. 3).

Almost every country holds people who face obstacles that obstruct their access to social protection. These obstacles arise from the systematic denial of opportunities, a lack of access to participation, and a lack of exercise of rights due to factors such as age, gender, ethnicity, origin and economic circumstances, among others (United Nations, 2017). In addition, even though they meet the requirements to access benefits and services, many people do not use social protection for different reasons (lack of information, costly or cumbersome procedures, fear and other motives) that undermine their effectiveness and the trust the population places on them. One of the most unfortunate reasons is the proof of poverty, which stigmatizes and humiliates applicants (United Nations, 2022a).

The importance of social protection to alleviate emergency situations was demonstrated during the COVID-19 pandemic when countries implemented measures based on the knowledge, experience and information taken from the existing social protection systems. However, at the same time, it became clear that it is not enough to concentrate on the fight against poverty (Beazley Solórzano and Barca, 2019) or to address the life cycle from a linear, synchronous approach (Cecchini and others, 2015). The lessons learned during the pandemic create the opportunity to either refresh the debate with new points of view or insist on the same demands as usual because of their meagre results. On the one hand, it is important

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to renew the reach of demographic change on social protection systems and, on the other, gather evidence on the different forms of exclusion that affect different social groups when they try to gain access to social protection.

This chapter addresses the demographic change happening in the Central American countries, Mexico and the Spanish-speaking Caribbean.[2] The first section shows how the population has evolved and analyses its age structure. It also looks into ageing and longevity as demographic phenomena affecting the social protection systems and presents alternative methods to evaluate their effects. Also, it examines housing arrangements and the importance of such in intergenerational terms. The second section examines social protection trends in the subregion, focusing on the exclusion of certain social groups with a characteristic that gives way to inequality. It identifies social protection dimensions that may encourage debate and make social protection serve all persons without discrimination. Finally, a closing section reflects on the findings of this paper.

A.   Manifestations of demographic change in the subregion

1.   Slower population growth in the subregion

Thus, countries in the subregion follow trajectories that differ significantly from how their population behaves. The subregion includes one of the countries of Latin America with the most advanced transition processes and also latecomers. As shown below, this heterogeneity has consequences on the population's growth potential and brings about other kinds of changes that impact social protection systems.

Cuba is a country with an advanced demographic transition. In 2023, its total fertility rate (TFR[3]) was 1.5 children per woman and life expectancy at birth was 78.3 years. It reached its population peak in 2017. The number of inhabitants has been in decline ever since. Currently, the population is 11,194,449 people, and its growth rate is negative (-0.17% per year). This is a very particular case in the region because of the older age structure and a long period of low fertility (since the mid-1970s). This situation goes beyond national averages and also occurs in the provinces. In 2022, 3,189 births were registered in the country, 347 less than the previous year when 3,536 were registered. The decrease in birth rate is worrisome and is felt in ageing provinces such as Sancti Spiritus, where the trend is not expected to revert in the short term (Sotolongo, 2023).

Another country with an advanced demographic transition process is Costa Rica, where the TFR stood at 1.5 children per woman, and life expectancy at birth was 80.3 years in 2023. The population has an annual growth rate of 0.68% and 5,212,173 inhabitants. The total population will grow at an annual average of 0.33% and peak in 2049 when about 490 thousand people will join today's numbers. El Salvador has 6,364,943 inhabitants, and its annual growth rate is 0.5%. It has been lower than replacement-level fertility since 2015; in 2023, its TFR was 1.8 children per woman. Life expectancy at birth was 73.4 years. Its population will peak in 2042 (6,687,447), with a 5.1% increase compared to today's population. Mexico has also been lower than replacement-level fertility since 2016. It currently has a TFR of 1.8 children per woman, a life expectancy of 75 years and a total population of 128,455,567 that grows at an annual rate of 0.73%. Its population will peak in 2052 with 15,395,579 more people (12% more than in 2023).

Seven countries in the subregion will reach population peaks after 2050. The time horizon for the population decline varies between 2052 and 2082. It is interesting to note that the populations in those countries keep growing despite being below replacement levels (TFR under 2.1). According to calculations made by Del Castillo (2023), it takes between 28 and 55 years of low fertility rates (below the replacement level) for a population to decrease. The precise number of years depends on the magnitude of the drop in fertility and migration. For instance, according to United Nations projections, El Salvador needs 28 years of low fertility for its population to start to decrease because its TFR is dropping rapidly (it will become 1.68 children per woman by 2040), and migration will still be high (4.4 per thousand between 2015-2042).

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[2]   This paper covers Costa Rica, Cuba, El Salvador, Haiti, Honduras, Mexico, Nicaragua, Panama and the Dominican Republic. From here on, the subregion.

[3]   Total fertility rate (TFR) is the average number of children a hypothetical generation of women bears if fertility conditions remain constant throughout their reproductive cycle.

In Haiti and Mexico, it will take longer, 33 years and 37 years, respectively. In Nicaragua, Panama and the Dominican Republic, the population will grow more than 75% after reaching 2.1 children per woman (see table IV.1) (Del Castillo, 2023).

Table IV.1
Subregion (10 countries): population growth in different periods

Country	Population (July 1st)	Population growth (Percentages)	Life expectancy at birth (Years)	Total fertility rate
Costa Rica	5 212 173	0.68	80.3	1.52
Cuba	11 194 449	-0.17	78.3	1.46
El Salvador	6 364 942	0.50	73.4	1.78
Guatemala	18 092 026	1.40	70.2	2.32
Haiti	11 724 763	1.21	64.8	2.73
Honduras	10 593 798	1.57	73.5	2.31
Mexico	128 455 566	0.73	75.0	1.79
Nicaragua	7 046 310	1.38	74.8	2.25
Panama	4 468 086	1.35	78.6	2.28
Dominican Republic	11 332 972	0.90	74.4	2.21
Subregion:	214 485 085			

Country	Total fertility rate equal to 2.1		Population peak	
	Period	Population (July 1st)	Year	Amount
Costa Rica	2003	4 188 610	2049	5 703 325
Cuba	1978	9 729 986	2016	11 342 012
El Salvador	2014	6 209 526	2042	6 687 447
Guatemala	2030-2031	20 137 533	2079	27 252 819
Haiti	2048-2051	15 037 037	2082	16 444 829
Honduras	2031-2033	12 028 837	2079	15 611 546
Mexico	2015	120 149 897	2052	143 851 146
Nicaragua	2028-2029	7 556 962	2074	9 690 854
Panama	2031-2034	4 994 467	2086	6 271 364
Dominican Republic	2027-2028	11 764 919	2062	13 387 322
Subregion:			2059	250 127 649

Source: Prepared by the author, on the basis of M. del Castillo, "Special Processing of Demographic Data for the Subregion," 2023, unpublished; Department of Economic and Social Affairs (DESA), Database on Household Size and Composition 2022, Population Division, 2022a [online database] https://www.un.org/development/desa/pd/data/household-size-and-composition; and Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

2. Changes in the age structure of the population

Regarding social protection systems, ageing and longevity are among the most critical demographic phenomena of the 21st century. At different paces, societies grow older (absolute and relative increases of older people) and gradually become more long-lived (increased life expectancy). In 1950, the subregion held 2.5 million people that were 60 years of age or older. One century later, that figure is expected to be 22 times larger (56,374,570 by 2050). This means that, in the one-hundred-year period, one person turns 60 years old each minute. In 1950, older women represented 50.5% of the total population of older persons. By 2050, this proportion will have risen to 55.1% (see figure IV.1).[4]

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[4] Latin America and the Caribbean display different demographic evolutions. The population of 60 years of age or older soared from 8.7 million people in 1950 to 89.9 million in 2023. In 1950, this age group represented 5.2% of the population. By 2023, it was 13.5%. By 2050, the number of older people is expected to double that of 2023, reaching 188.1 million. In other words, one-quarter of the population (25.1%) will be in old age. However, the child population evolves differently. Though it increased by 45% over the past seven decades, the number of children under 15 is estimated to drop by 17.4% over the next 27 years.

Figure IV.1
Subregion (10 countries): age structure of the population by sex, 2023 and 2050
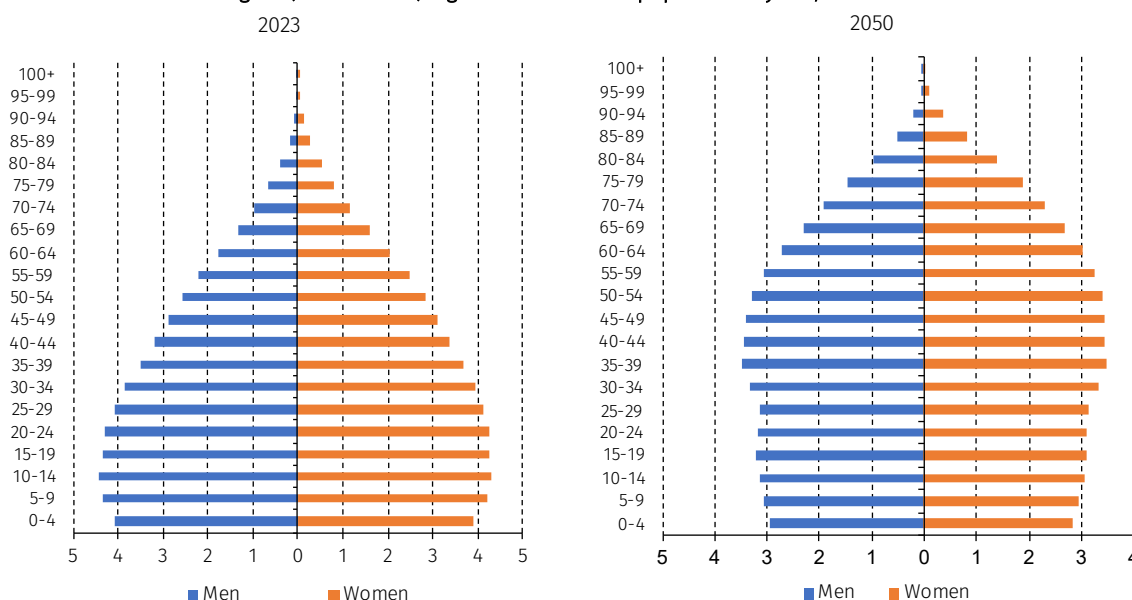
2023

2050

■ Men   ■ Women

■ Men   ■ Women

Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

In 2023, older persons numbered 25,609,408, which is 11.7% on average of the total population in the subregion. In other words, there are ten times more persons of old age, which is twice the percentage of 1950 (5.1%) and little less than half of what is expected by 2050 (21.9%). The ageing rate for 2023 was 47 older persons for every 100 persons under 15 years old. This indicator increased four times since the second half of the last century, when it was 11.9. It is thought that by 2050 there will be at least 126.4 persons 60 or older for every 100 children.

In 1950, children between 0 and 14 represented 42.8% of the subregion's total population. That proportion in 2023 was 25.2% (54,119,134) and will be 17.9% by 2050. That is, the proportion of children will be lower than that of older people. In 2043, the number of older people in the subregion will be larger than those between 0 and 14 (see figure IV.2).

Figure IV.2
Subregion (10 countries): old age population and child population, 1950-2050
(Thousands)
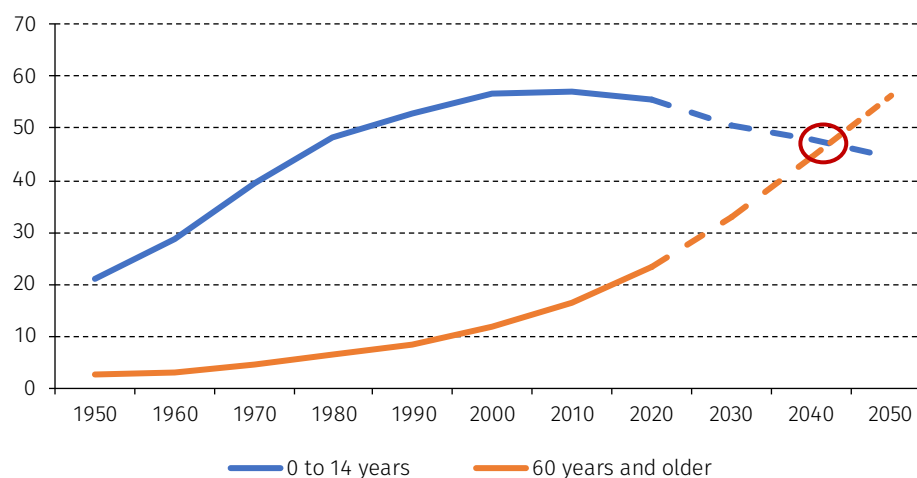
━━ 0 to 14 years   ━━ 60 years and older

Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (UN DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

3.   Advances and limitations of increased longevity

Today, not only are there more people over 60, but they also are expected to live longer. On average, life expectancy at birth in the subregion stood at 46 years in 1950. By 2023, people are expected to live an additional 28.3 years and up to 74.3 years. By 2050, they will be living to 79.3 years of age. The largest increase in life expectancy at birth occurred during the 1960s. On average, the indicator gained 6.9 when compared with the previous decade. From then on, the gain has slowed its pace. In this decade, only 1.3 years will be added. At a national scale, the achievements in life expectancy at birth did not follow the same trajectory. Though Guatemala and Honduras have improved this indicator in recent years, they would still need 41 years and 47 years, respectively, to reach the life expectancy at birth shown by Costa Rica in 2023. In Haiti that will not happen in this century.

Figure IV.3
Subregion (10 countries): population under five years of age and 75 years and older, 1950–2050
(Thousands)
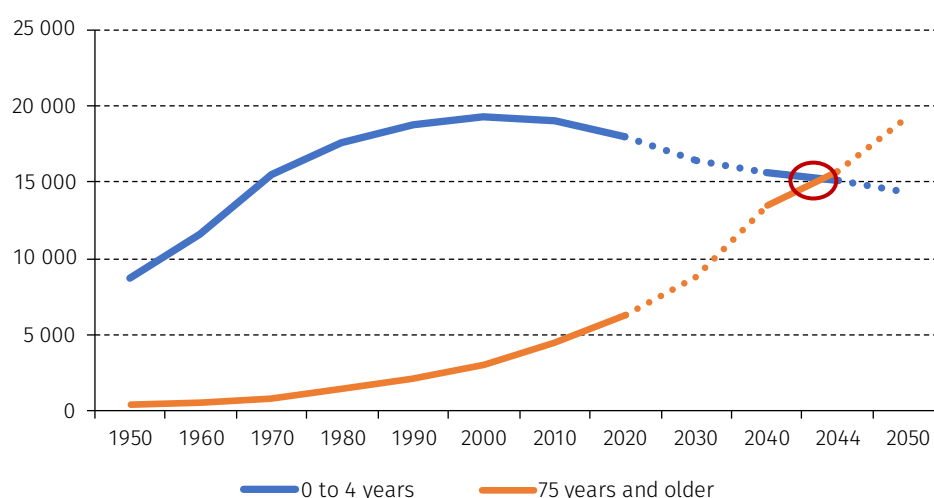
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

As in other parts of the world, the subregion has a growing number of people of very old age. At the beginning of the 1970s, fewer than 1 million people were 75 years old or older. The annual growth rate of this group remained at 4.6% until early this century (1970-2000). By 2023, there were 6,615,310 of them, with an annual growth rate of 3.1%. By 2050, there will be 19,331,447. United Nations estimates show that the population of 75 years or more doubled between 2000 and 2020 and will double again between 2020 and 2039. Over the past five decades, this group has grown faster than the entire population. In 2044, more persons will be 75 and older than children under five (see figure IV.3).

In developed countries, the growth of the centenarian population draws ever more attention. Survival into a very advanced age is expected to extend to all the countries of the world in this century (Robine and Cubaynes, 2017). The increase might be explained by the decrease in the mortality rates in the 80-100 age range, a milestone that might be the determining factor for the life expectancy of the old age population (Robine, 2021). The number of people 100 years old or older (centenarians) in the subregion grew from 169 in 1925 to 1,025 in 1977. By 2023, it has reached 15,818, according to United Nations Population Division figures. It will double in the next 20 years. These people live far beyond the average life expectancy of their times, which was 65.4 in the 1970s.

When looking at the odds in the subregion of dying between 70 and 90 years old, a decrease is observed between 1990 and 2019, though with different trajectories. In 1990, the probability that someone over 70 years old died before reaching 90 was lower in Mexico (79.4%), Cuba (79.9%) and Costa Rica (82.4%), whereas Haiti (82.4%) and Honduras (93.9%) were at the other end of the scale. In 2019, Panama (65.1%), Cuba (74.9%) and the Dominican Republic (74.9%) stood in the first positions, as Mexico underwent a slight

increase (0.4 percentage points between 1990 and 2019). Haiti and Honduras remained in the last positions (see figure IV.4).

Figure IV.4
Subregion (10 countries): probability of death between 70 and 90 years of age, 1990-2019
(Percentages)
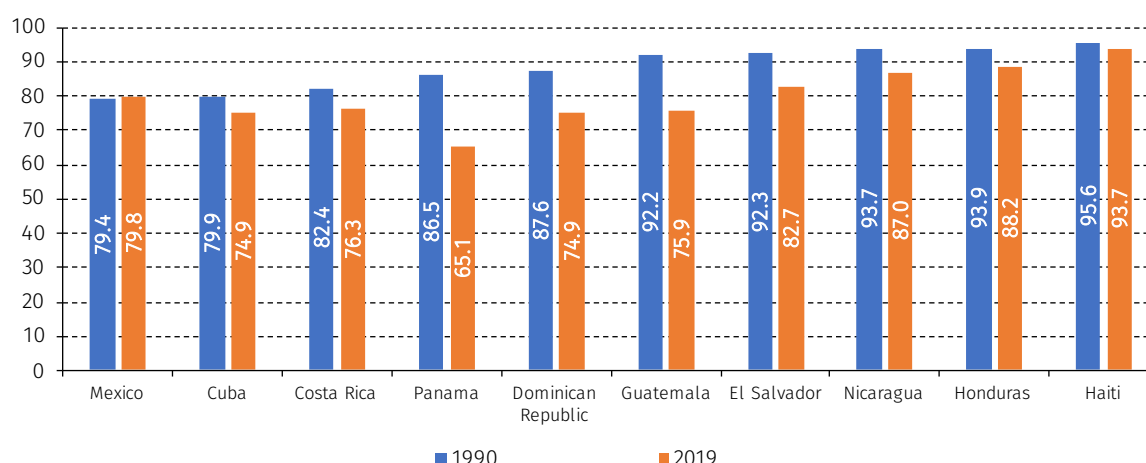
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

The COVID-19 pandemic, which took many older people's lives, stymied the progress of key indicators for old age. One such was the average life expectancy at 60, which had been increasing since 1950 with an average of 14.3 years in the subregion to 20 years early this century. The upwards trend continued until 2019 (20.7 years) but fell to 18.8 years on average in 2020, equal to the number of years remaining for persons 60 or older who lived in Panama in 1974.

At the country level, the behaviour of life expectancy at 60 is varied. Between 2019 and 2023, Guatemala displayed a 2.4-year drop and Haiti one of 0.4 years. These two were the only countries in the subregion whose indicators did not move up after the pandemic. Costa Rica and Panama had increases of 0.7 and 0.6 years, respectively. The indicator grew by 1.2 years in El Salvador, whereas in other countries, it moved slightly up (see figure IV.5).

Figure IV.5
Subregion (10 countries): changes in life expectancy at 60 years of age, 2019-2022
(Years)
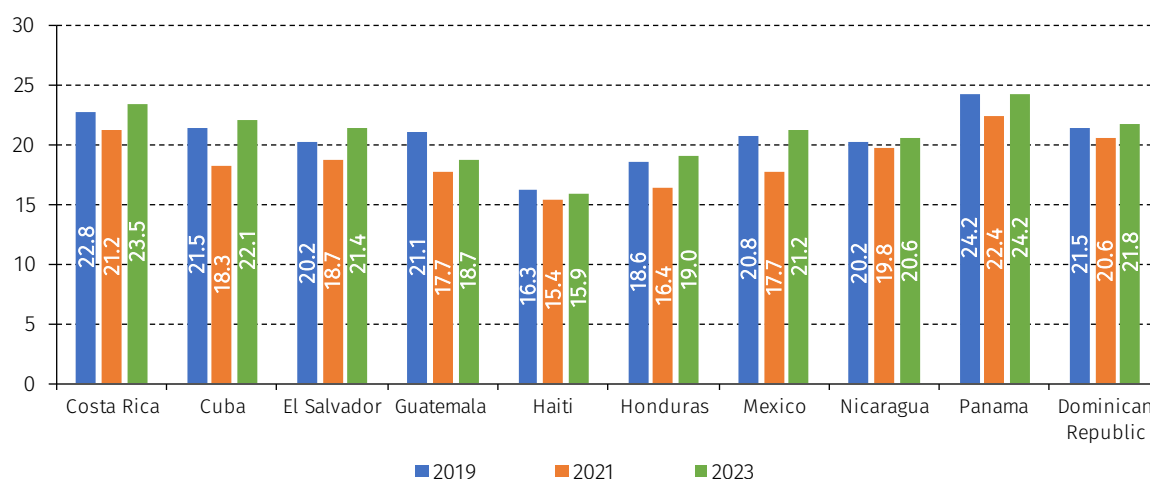
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

4. Differentiated measurements to estimate needs in old age

When speaking of demographic change and social protection, the idea of an ageing population and the burdens it may place on health and pension systems comes to mind. In other words, the generations of children and older persons are compared to determine which generation will require heftier investments or expenditure cuts. To produce estimates, Latin America uses the 60 years or older benchmark to count the number and proportion of older persons. The mark is at 65 years to account for demographic dependency. Next, this study presents two novel contributions to address this issue. The first one is prospective old age, and the second is the estimation of dependency using calculation methods that seem adequate to measure the weight that ageing puts on social protection systems.

a) Prospective old age

The United Nations uses the criterion of 60 years and older to define older persons. Based on data about the population's age distribution, this criterion makes it possible to work with historical series that can be compared over time and between countries (Sanderson and Scherbov, 2019).[5] Though chronological age is a valuable criterion, the difficulty appears when considering that its threshold has remained unchanged for the past 40 years. Some researchers have therefore proposed new ways to define old age. According to one approach, starting old age at 60 or 65 is a criterion that must be abandoned because it contradicts the increase in life expectancy and does not consider aspects such as a person's intrinsic capabilities and the effects of the surroundings on individual ageing. In its 2015 report, WHO stated that one of the characteristics of old age is diversity, and chronological age is vaguely associated with levels of functionality (WHO, 2015, p. 18).

This approach settles prospective old age at 15 or fewer years left to live out of the average life expectancy (National Academy of Medicine, 2022). One strength of this criterion is that prospective age considers changes in life expectancy and is calculated nationally. Scholars who support this approach say its basic assumption is that while two people in different places or times with the same chronological age may have relatively little in common, two people with the same years yet to live may share more similarities (Gietel-Basten, Saucedo and Scherbov, 2020, p. 2).

Figure IV.6
Subregion (10 countries): prospective old age, 2020 and 2050
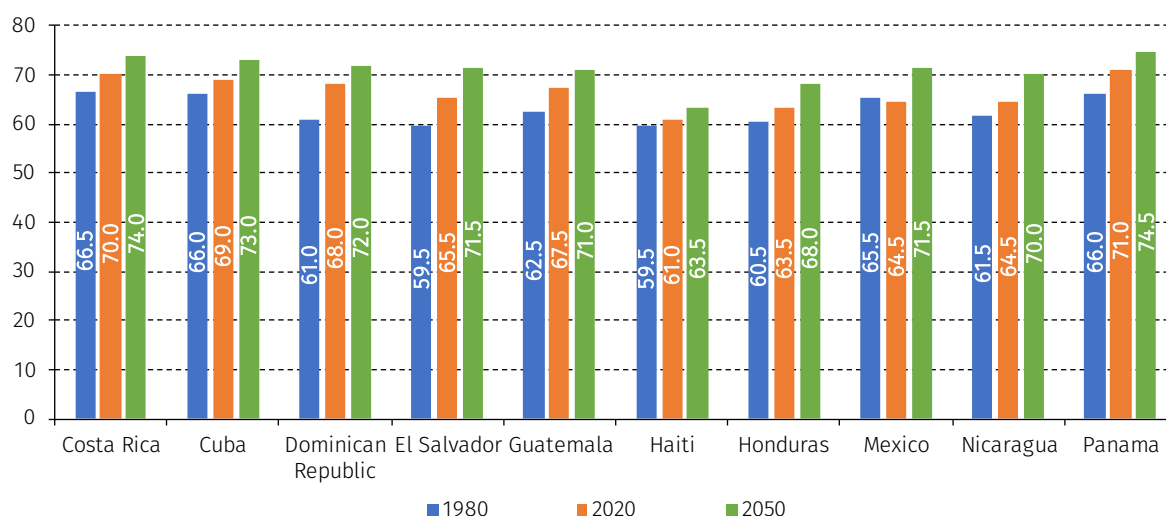
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (UN DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

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[5]   The same reasoning led the OAS to define older people by a chronological criterion at the Inter-American Convention on the Protection of the Human Rights of Older Persons, even though Article 2 of the Convention conceptualizes old age as "a social construct for the last stage of a lifespan" (OAS, 2015, p. 4).

If this indicator is used, the criterion to consider whether someone is old varies according to where they live. By 2020, all the countries in the subregion stood well beyond the 60-year threshold. Projections for 2050 show that the chronological age usually used to define old age (60 years) will be surpassed by many years in all countries. In 1980, the difference between the traditionally accepted age for the beginning of old age[6] and the prospective age ranged between 0.5 years (Haiti and El Salvador) and 7.5 years (Costa Rica). In 2020, this difference grew in all countries; Panama's was the largest (11 years). It is estimated that by 2050, the country with the widest disparity between 60 years and the prospective age will still be Panama (14.5 years), followed by Costa Rica (14 years) and Cuba (13 years). Haiti (3.5 years) and Honduras (8 years) will have the smallest differences, though above the 1980 levels (see figure IV.7).

Figure IV.7
Subregion (10 countries): difference between the chronological limit for the beginning of old age (60 years) and prospective old age
(Years)
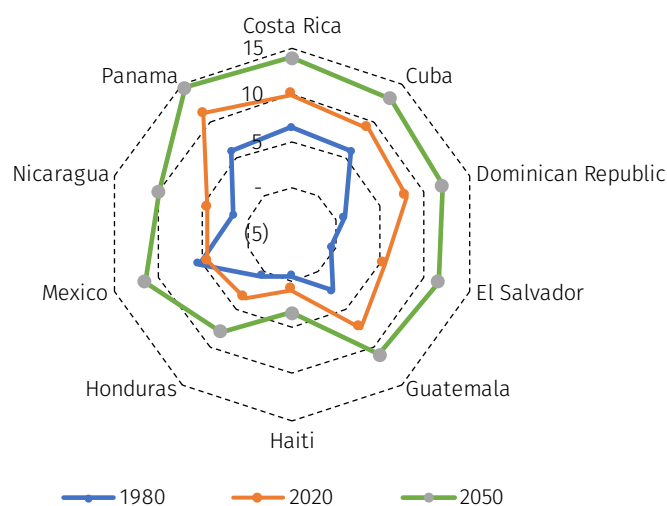
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), World Population Prospects, 2022b [online] https://population.un.org/wpp/.

b)   Dependency ratios in old age

Several studies estimate the impact of increasing age on social expenditure based on the old-age dependency ratio. For example, there are at least four ways to calculate this indicator. The conventional method measures the population aged 65 and older compared to potentially active ages (20 to 64). Its goal is to estimate the economic burden of older persons. This calculation is strongly criticized because it holds that two population groups are dependent (children and older persons) and that only one group (adults) supports the other two with their work and income.

Though this view has its uses, it usually does not consider that children will not remain dependent forever, that older persons once participated in the labour markets, or that not all adults can be providers.[7] WHO points out that this indicator has many flaws mostly because it assumes that chronological age is a valid marker of behaviour (WHO, 2015, p. 18). The European Commission has said that different generations are now deeply interdependent,[8] which makes it ambiguous to consider them separately (European Commission, 2021) as the demographic dependency ratio does.

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[6]   In Costa Rica, which defines the chronological limit of old age at 65, the prospective age is older than the legally established threshold.
[7]   Low-quality employment, poverty, jobs and a high proportion of atypical forms of work associated with insecurity and low wages (European Commission, 2023) are some of the risks the adult population must face to support the so-called dependent populations. However, this element is ignored when using the demographic old-age dependency indicator.
[8]   See the section on intergenerational housing arrangements.

A different measurement is the prospective old-age dependency ratio, which adjusts the traditional criterion for the beginning of old age. The adjustment is made by combining population traits such as functional capability, absence of disease and remaining life expectancy (Scherbov and Sanderson, 2016). The result comes from comparing the number of people expected to live another 15 years with those between 20 and that age. This gives a proxy of the dependency burden by estimating the possible pressure on society overall (DESA, 2023).

A second alternative is the demographic health-adjusted old-age dependency ratio. This choice considers the burden of diseases associated with ageing. The dependent population would be the population whose disease burden is equal to or larger than the average for people 65 or older in the world. The support population has a lighter disease burden than the dependent population. A third measurement is the care dependency ratio: the number of older persons that have lived beyond their healthy life expectancy divided by the number of people between 15 years old and the healthy life expectancy minus six years. This indicator looks to draw near to the number of older people who need care.

Figure IV.8 shows the old-age dependency ratios for the countries in the subregion, calculated according to the four different manners mentioned above. As expected, results vary according to the method used. The differences between traditional and prospective dependency ratios are striking. The dependency burden has fallen in all countries. The difference between the two measurements is at least seven percentage points in Cuba, Costa Rica and Panama. This suggests that, as in other parts of the world, the impact of population ageing in populations with high life expectancies may be lower than when calculated with the demographic old-age dependency ratio (DESA, 2023). The old-age care dependency ratio gives a much smaller demand than the other measures. When calculated for other age groups, the result stays the same because nowadays, the people who require care are primarily children, even in Cuba.

Figure IV.8
Subregion (10 countries): demographic old-age dependency ratios (65/20-64), prospective old-age dependency ratios, health-adjusted old-age dependency ratios and care dependency ratios, CIRCA 2020
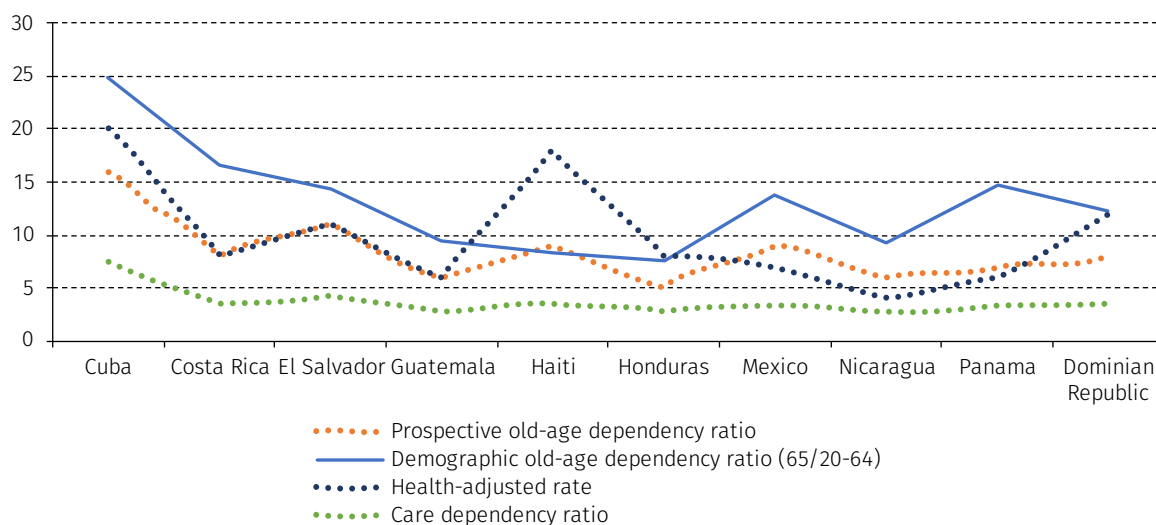
Although the difference between the traditional and health-adjusted dependency ratios is more discreet than the above, the latter is still smaller. In Mexico, Panama and Costa Rica, the health-adjusted dependency ratio was seven percentage points lower than the traditional ratio, but it was practically the same in Honduras. In Haiti, the health-adjusted dependency ratio is almost ten percentage points higher than the traditional ratio. This may be because although Haiti is in an early ageing stage, many old age-related diseases appear too soon. The heaviest disease burden falls on disfavoured groups and

persons at a socio-economic disadvantage. Such is the case of Haitian people, who are at greater risk of getting long-term diseases early in their lives, and once gotten, these diseases will hit more severely (Tafadzwa and others, 2023). In that country, the adjusted premature mortality rate in 2019 was 167.5% higher than the average for the Americas (PAHO, 2023).

The prospective old-age dependency ratio accounts for increases in a population's life expectancy, which may be helpful when looking for ways for older persons to keep working if they wish and their health conditions allow it. This is especially true in countries with a mandatory retirement age, which wastes older persons' contributions to the economy and society.

The health-adjusted dependency ratio makes it easier to see the effect of health conditions on a population. It also clearly shows how important it is to invest in well-being in the entire life cycle and how relevant public health is, especially in its pre-emptive interventions and health promotion measures, above all about primary care. The care dependency ratio is presently useful because many subregion countries are designing care policies. Moreover, it makes it easier to calculate the current demand and its distribution by age group and predict the changes that will come about as societies age.

5.   Intergenerational housing arrangements

Housing arrangements have changed alongside demographic transition. As the population ages, the percentage of households with older persons and intergenerational households has grown. The most recent available data that countries have on this issue make it possible to know what these families are like, with the understanding that they are not the same. A subregional perspective built with the available information on housing arrangements collected by United Nations shows that, on average, 35.2% of the total households are intergenerational, and three generations live together in 16.7%. El Salvador (40.3%) and Guatemala (38.7%) are above the average for intergenerational households, with three-generation households at 20.2% and 22.7%, respectively (see figure IV.9).

Figure IV.9
Subregion (8 countries): types of intergenerational households, last date available
(Percentages)
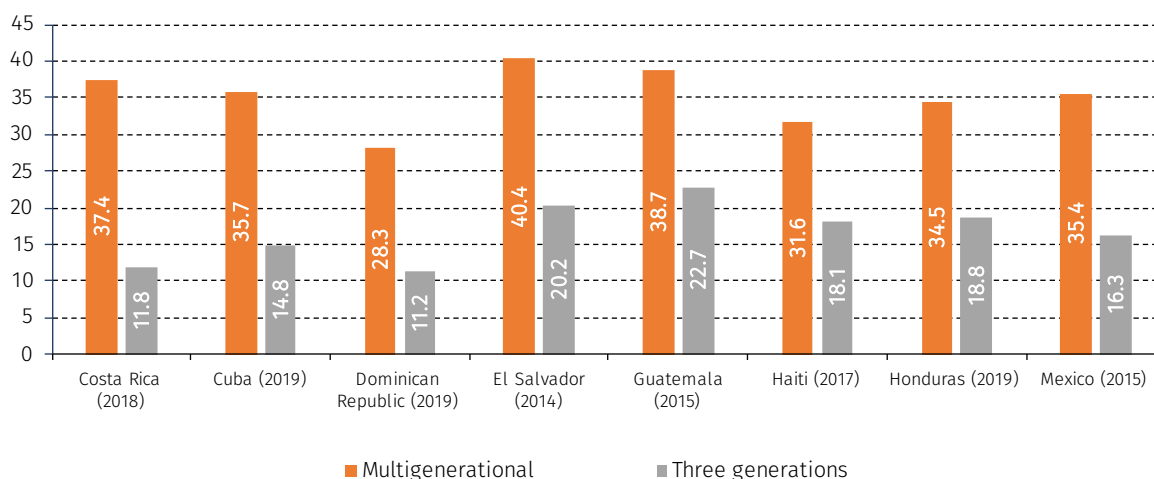
Source: Prepared by the author, on the basis of Department of Economic and Social Affairs (DESA), Database on Household Size and Composition, 2022a [online database] https://www.un.org/development/desa/pd/data/household-size-and-composition..

Most households in the subregion have at least one child member (57.7%), while little less than a third (32.2%) have at least one person who is 60 or older. This is a consequence of the population age structure. However, in all countries, the relative weight of households with one more senior age member is higher than the percentage of older persons in the entire population. This occurs in countries with low proportions of older persons, such as Haiti, where 31.7% of households include at least one older member, or Honduras, where that proportion is 29.2%. In Cuba, 48.2% of households have at least one older

member. In Guatemala, 74.1% of households support at least one member under 15. Older persons play essential roles in families. In Cuba, the heads of 43.4% of homes are older persons. The lowest proportion is in Guatemala, where an older person leads two out of every ten households.

As may be seen, housing arrangements in the subregion vary among countries, which means that social protection needs will be different when analysing their composition and structure because they reflect the transitions within such countries. In some, demographic change makes the intergenerational transmission of all kinds of resources easier, though it may also enlarge and diversify care burdens or income necessities. It also affects the roles played by household members, especially in intergenerational households where institutional aid is missing.

B. A look at social protection in the subregion

1. Discrimination as a determinant of access to social protection

ILO points out that the pandemic exposed deep inequalities and gaps in all countries' coverage, completeness and adequacy of social protection (ILO, 2021). Thus, it is clear that a profound dialogue is needed concerning the areas that require improvement and the possible strategies to do so in today's context. The well-being of all persons must be guaranteed by addressing the ongoing demographic change because it affects both social life and the economy.[9] Knowing the characteristics and the evolution of the future population helps identify the priorities and opportunities for social protection systems, the goals they seek and the instruments they choose.

The pandemic made it clear that it is imperative to pay attention to preventing disadvantages from accumulating throughout a lifespan, from infancy until death, and to survivor protection. Countries need mechanisms directly and explicitly focused on strengthening the empowerment of people and amplifying their access to resources with a long-term perspective. This includes access to quality education (for all ages), opportunities for decent work (arrangements that make it possible to combine participation in the labour force with schooling or enjoying a pension), universal health (emphasizing prevention and promotion) and life care (compatibilization of productive and reproductive tasks), among others.

A critical point on which demographic analysis may provide substantial contributions is the discernment and weighing of vulnerabilities and risks. Vulnerabilities are not intrinsic to persons but arise from their social standing, from the resources and means they can access to strengthen their skills to face vital contingencies. Risks are inherent to social life and are part of human existence. They become a problem when the people whom they affect cannot face them (see diagram IV.1).

Vulnerabilities are associated with each person's individual traits (though many are also demographic dimensions), such as age, gender, place of residence, ethnicity, migratory status, size and composition of the household to which they belong, disabled condition or dependency level, among others. These traits become disadvantages when their presence makes people less capable of facing risks. Bonilla García and Gruat (2003) state that the obstacles to accessing social structures and institutions, when based on, for instance, sex, ethnicity, health condition or disability, often cannot be surmounted and hold back the full realisation of human and social potential. For example, girls and women cannot access important social institutions, such as those that provide schooling, because of gender inequality. This exposes them to risk and limits their social participation (Bonilla García and Gruat, 2003).

Inequality in risk management is neither a static nor an inherent phenomenon. As Piketty puts it, inequality is foremost a social, historical and political construct (Piketty, 2021, p. 18). Social protection may play a significant role in addressing this situation, especially when it intervenes in the access barriers resulting from factors that give place to disadvantage and exclusion. Some factors are discriminatory treatment towards some traits or identities, which creates power inequalities that may prevent some groups from accessing social protection and other public services (United Nations, 2017).

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[9] Meaning family consumption, business investment, employment, productivity and setting of wages and prices. Similarly, a population's age structure depends on the composition of public revenues and expenses, which impact macroeconomic finance and tax issues, to mention a few (Bank of Spain, 2019).

Diagram IV.1
Vulnerabilities and risks
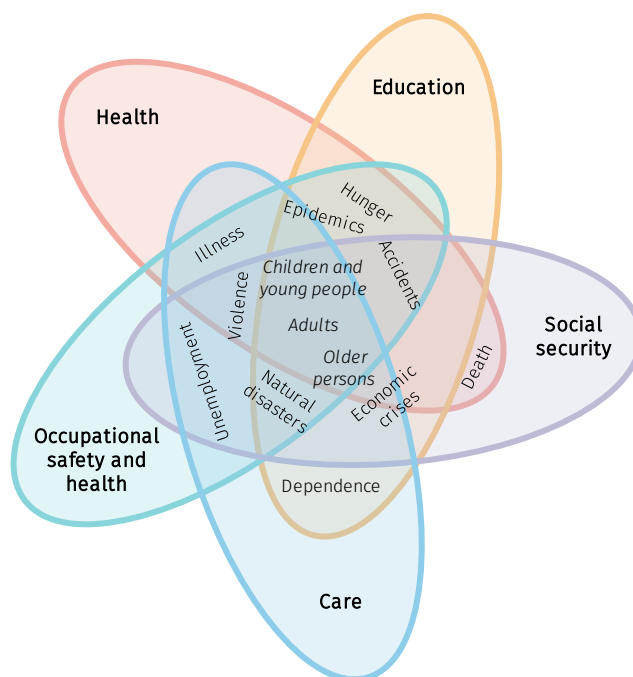
Source: Prepared by the author.

2.   Social protection gaps with an emphasis on disadvantaged groups

As stated by Piketty (2021), several political options may be available to organize a social system, even when the level of development is the same. For the topic covered by this chapter, this means that political decisions determine how social protection is organized, which may result in markedly different levels and structures of inequality. Therefore, inequality is a political option and not something unavoidable. The region's progress confirms this since the start of the 2000s when most governments in Latin America and the Caribbean put aside the idea of a residual social policy, increased social investment and strengthened their social protection systems (Arenas and Cecchini, 2021, p. 280).

One way to measure inequality is by using the gaps between different social groups. Gaps are significant differences in the access that various groups and persons with a particular trait have to social protection services and benefits, putting them at a disadvantage compared to others. Gaps may appear in many forms, such as access to basic services related to health, education, housing and work. They may also be displayed in social exclusion, discrimination and lack of participation in political and social life.

As for health, some authors point out that the different health conditions among populations are influenced by how social expenditures are distributed. Considering the high incidence of social determinants on a population's health conditions, countries that invest in social protection can obtain better health results (Sieber and others, 2022). Although this issue needs further examination, it is telling that, in 2019, Costa Rica and Cuba, the countries that have invested the most in health and social protection in the subregion, exhibited a higher expectancy of health in old age than the rest of the countries. In 2021, they registered the lowest child mortality rates and rates for mortality in children under five years old in the region. On the other hand, Honduras and Nicaragua, whose investments in social protection and health are below average, have the lowest expectancy of healthy old age compared to the other eight countries under analysis. These two countries also have the highest child mortality rates and the highest proportion of mortality in children under five (see figure IV.10).[10]

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[10]   Mortality in children under five years of age was 16.2 in Honduras and 13.4 in Nicaragua. Child mortality was 13.4 in Honduras and 13.1 in Nicaragua.

Figure IV.10
Subregion (8 countries): health and social protection budgets as a percentage of GDP,
last year available
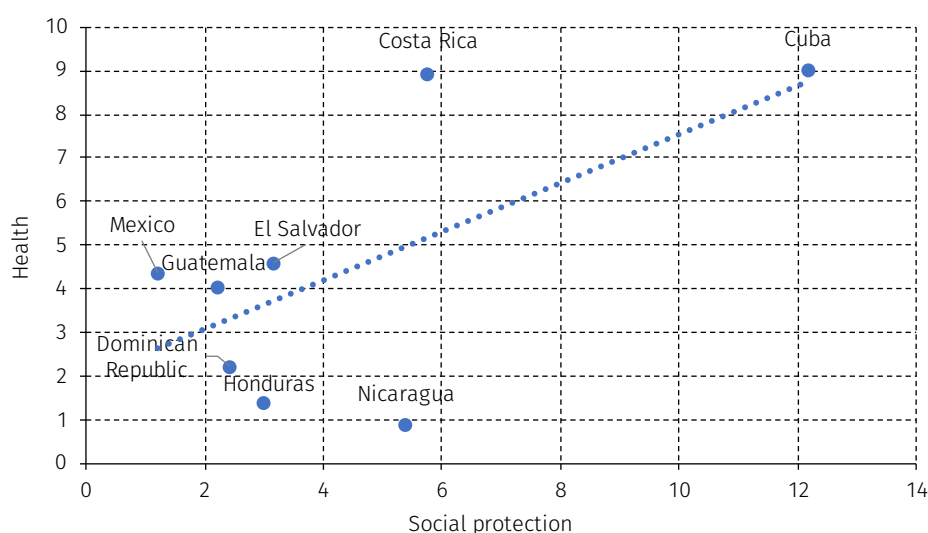
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://estadisticas.cepal.org/cepalstat/portada.html.
Note: For Costa Rica, Cuba and Guatemala, the information corresponds to the 2020 government budget. For other governments, it corresponds to 2021.

The budget of social protection systems in the subregion's countries varies among population groups. On average, the expenditures of five countries (Costa Rica, El Salvador, Guatemala, Mexico and Panama) concentrate on older people. This is a consequence of the high investments made by Costa Rica and Mexico in this item. Workers and children come in second (see figure IV.11).

Figure IV.11
Subregion (5 countries): social protection budget as GDP percentage per population group, 2020 or last year available
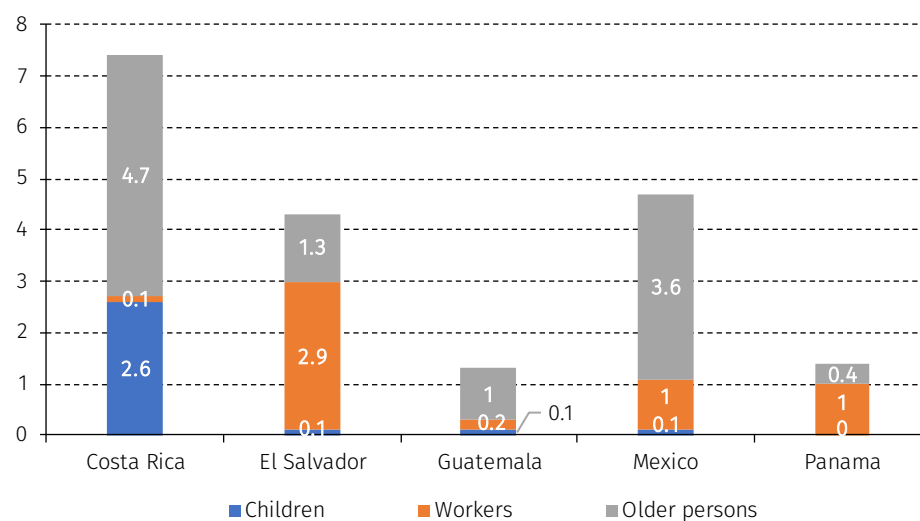
Source: Prepared by the author, on the basis of International Labour Organization (ILO), World Social Protection Data Dashboards, 2023 [online] https://www.social-protection.org/gimi/WSPDB.action?id=32.

The subregion has important unsolved health problems. The Concluding Observations to the Second Periodic Report on Honduras of the Committee on Economic, Social and Cultural Rights (CESCR) described the situation stating that the Committee is concerned by the lack of financial and human resources, weak infrastructure, medicine shortage and poor quality and supply of health care services, particularly in remote and rural areas and for persons living on low incomes (CESCR, 2016, p. 11).

In 2021, 34.5% of El Salvador's population declared that they do not go to health centres because they do not receive services there. This proportion for the rural area is 38.7%, which is 6.8% higher than for urban areas.[11] Many must incur catastrophic expenditures to pay for health care services, medicines and treatment. Therefore, on average, for eight countries, 9.1% of households spend over 10% of their income on health care, and 2.5% spend more than 25%.[12] The 2022 CESCR Concluding Observations for Guatemala also expressed concern. The Committee pointed out that healthcare costs are largely borne by the individual, thereby perpetuating serious inequalities in access to and enjoyment of the right to health by the most disadvantaged persons and groups, mainly low-income persons, indigenous peoples and persons living in rural or remote areas (CESCR, 2022).

Thus, in the subregion, the perception of access to health varies depending on how health protection works. According to data from nine countries collected by Latinbarómetro in 2020, 36.4% of surveyees considered that access to health is fair, whereas 39.6% thought it unfair. In Costa Rica, most surveyees (49.4%) considered access fair. However, in Guatemala, the perception is less favourable, as surveyees generally consider access unfair (44.6%).

The Universal Health Coverage (UHC) index is an indicator used to measure the access and availability of healthcare services in a country. It considers preventive, curative and rehabilitative services and whether these expose the user to financial hardship. Figure IV.12 shows this indicator by age group. As observed, the index is higher for people under 15 than employees, whereas older persons are 12.9 points lower than children.

Figure IV.12
Subregion (10 countries): universal health coverage index by population groups, 2019
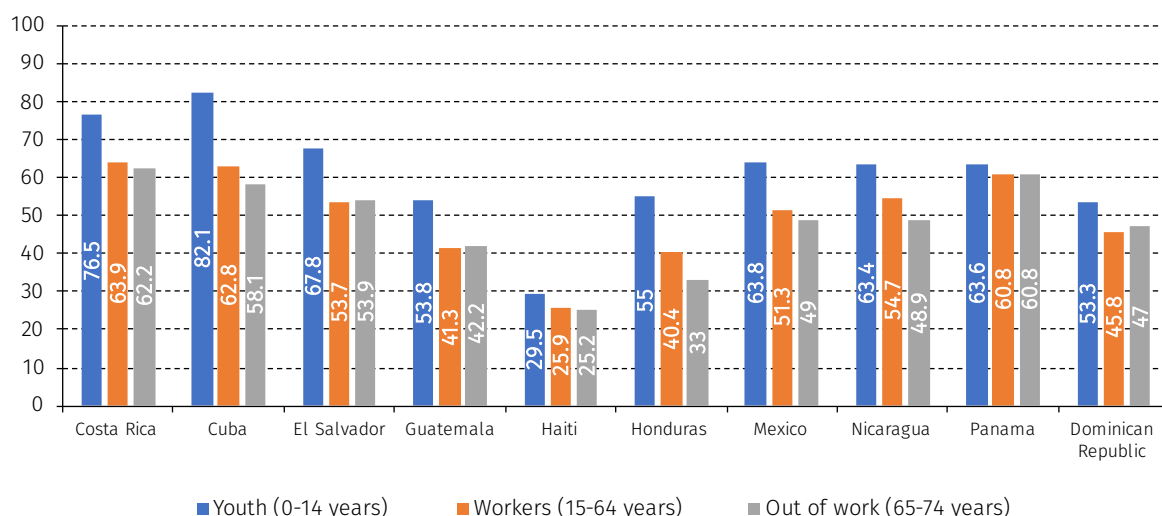
Source: Prepared by the author, on the basis of GBD Healthcare Access and Quality Collaborators, "Assessing performance of the Healthcare Access and Quality Index, overall and by select age groups, for 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019", *The Lancet Global Health*, 2019.

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[11]   Calculations based on El Salvador's 2021 Multiple Purpose Household Survey.
[12]   SDG indicator 3.8.2. Proportion of the population with a large health expenditure per home as a percentage of total household expenditure or income

According to recent research, this situation is globally widespread. It may be caused by the availability and promotion of relatively effective low-cost technology, such as vaccination and oral rehydration, which decrease mortality associated with preventable diseases and diarrhoea in children. People of working or retirement age receive less medical attention, partly because funds for non-transmissible diseases are comparatively lower.

This situation is related to diseases and conditions specific to particular population groups, given that preventing mortality in older persons requires more complex responses, greater organisational capabilities and different technologies, treatments, and diagnoses (GBD 2019 Healthcare Access and Quality Collaborators, 2019). With a few notable exceptions, the subregion's health systems provide scarce preventive medical attention for non-transmissible diseases and lack access to services to detect pathologies early on. This caused concern during the COVID-19 pandemic.

Social protection gaps may also be approached by analysing coverage by income quintiles. Figure IV.13 shows the indicator for the poorest quintile in the subregion's countries. Significant differences may be observed. According to the latest available information, in Panama and Costa Rica, 9.3% and 11.1% of persons in the first income quintile receive no social protection benefits. The proportion increases to 98.8% in Guatemala and 78.5% in Haiti. According to place of residence, people living in urban areas are affected the most, except in Nicaragua.

Figure IV.13
Subregion (9 countries): population in the first income quintile that does not receive social protection by residence area
(Percentages)
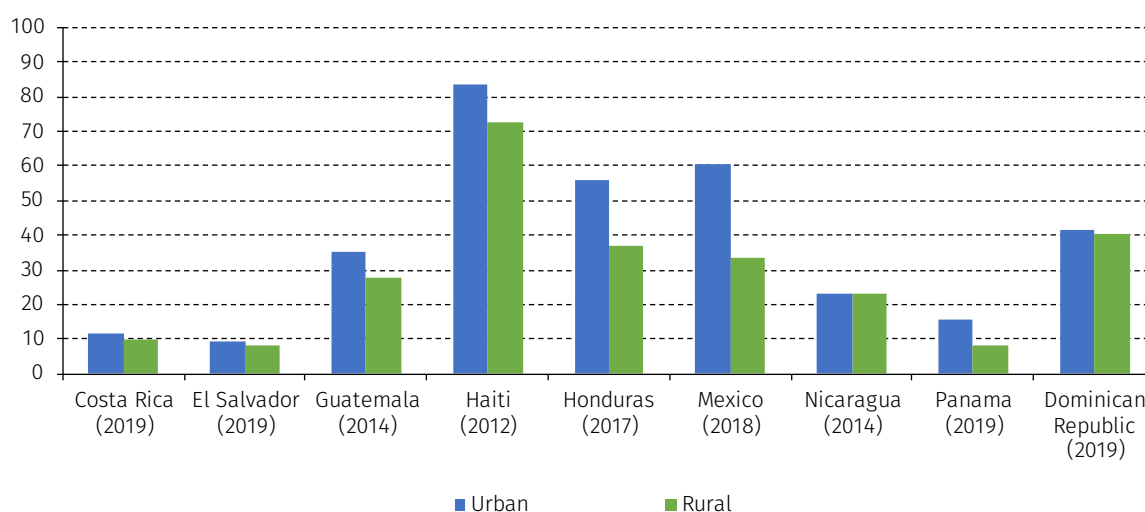
Source: Prepared by the author, on the basis of World Bank microdata.

There is inequality between men and women in access to social protection. In four subregion countries (Costa Rica, Mexico, Panama and the Dominican Republic), most persons 65 years old or older who received insufficient pensions were women. On average, 72.2% of women are in such circumstances, compared to 58.8% of men. Gender-related differences are steeper in Mexico (17.3%) and Costa Rica (16.2%).[13] For the latter, the 2021 National Household Survey showed that women in rural areas had limited access to social protection as direct right-holders (19.5%), while men in urban areas are in a different position (51%). Thus, 42.5% of women in rural areas have access to social insurance since they depend on an immediate family member.

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[13]   In Costa Rica, the proportion of older persons who receive insufficient pensions is the lowest among the analysed countries.

In its 2016 concluding observations on the Dominican Republic, the CESCR noted with concern that the working conditions of women in certain sectors, such as free trade zones and the agricultural and domestic service sectors, remain substandard, as women in those sectors continue to receive low wages, have little job security, work in unsafe and unsanitary conditions and be at risk of exploitation and abuse; the Committee is further concerned about the significant gender pay gap (CESCR, 2016, p.6).

According to the United Nations (2021), "Indigenous Peoples are generally exposed to a poverty risk considerably higher than most of the population, and the origin of this disadvantage lies in the historical legacy left by the colonisation and the spoliation of land, territory and resources" (p. 10). For instance, the CESCR expressed concern over the high index of poverty that persists in the State, particularly in its rural areas and the Autonomous Regions of the Caribbean Coast, mostly inhabited by Indigenous Peoples, in Nicaragua.

An ILO report (2022) concludes that, during the pandemic, the gaps in access to health and social protection for the Indigenous Peoples of Latin American countries, including Guatemala and Panama, became more vulnerable (ILO, 2022). In Guatemala, 36% of the population is indigenous, whereas, in Panama, the proportion is 14.8%. In both countries, most of the indigenous population lives in rural areas (61.1% in Guatemala and 66.7% in Panama).

Although the subregion has made some progress, social protection coverage for indigenous persons remains unequal. As shown in table IV.1, the indigenous population in both countries has less access to pensions and lower contributory coverage than the non-indigenous population. Although Panama provides access to medical attention three times higher for its non-indigenous population and the indigenous population has better access to social programmes in Guatemala, coverage is relatively low, regardless of ethnicity (see table IV.2).

Table IV.2
Selected countries: indicators of access to social protection by indigenous ethnicity, circa 2019

Indicator	Guatemala		Panama	
	Indigenous	Non-indigenous	Indigenous	Non-indigenous
Occupation ratio	83.1	75.6	62.8	61.6
Access to pension	2	4	4	10
Contributors to a pension system	8	25	44	58
Access to social programmes (percentages)	-	-	9	4
Access to health system (percentages)	10	30	-	-

Source: Prepared by the author, on the basis of International Labour Organization (ILO), *Labour Outlook for Indigenous Peoples in Latin America: Social Protection as a Pathway to Inclusive Recovery from the COVID-19 Pandemic*, Geneva, 2022.

Despite the gaps in social protection coverage in the subregion's countries, social programmes are key to fighting exclusion, poverty and inequality (United Nations, 2017). As shown in figure IV.14, social pensions positively affect the simulated change of the Gini inequality coefficient for Costa Rica, Mexico and Panama, where the contribution of social pensions to inequality is of utmost value, especially in rural areas. This is not so when analysing contributory pensions, which have a regressive effect on inequality in the Dominican Republic, Guatemala and Honduras because pension plans depend on the payment of contributions.

Although this is not an exhaustive review of the social protection gaps in the subregion, it indicates that much still needs to be done and corrected, particularly concerning specific groups that remain at a disadvantage to this day. Such groups include women, Indigenous Peoples or the rural population, who require the decisive action of the State to place social protection within everybody's reach, without any sort of discrimination (United Nations, 2017, p. 12).

Figure IV.14
Three selected countries: decrease of Gini inequality index due to social pensions
(Percentages)
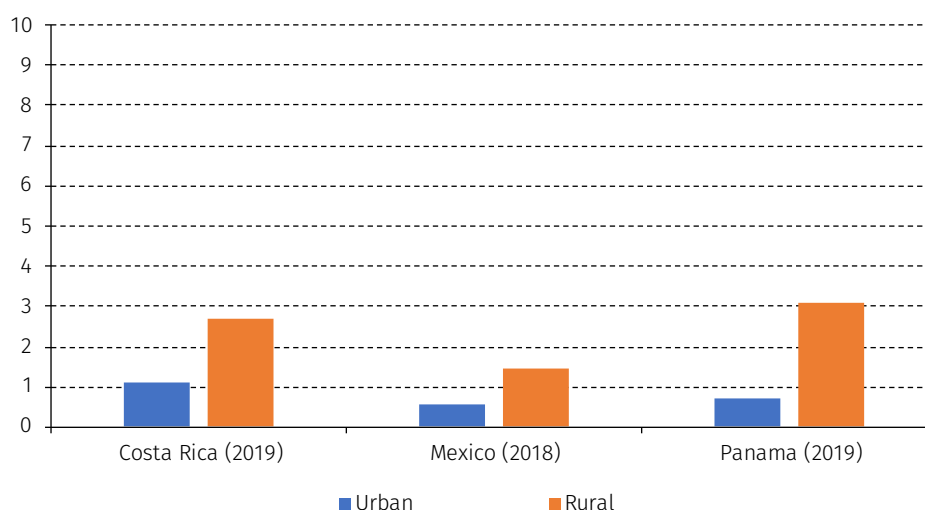
Source: Prepared by the author, on the basis of World Bank microdata.
Note: The Gini coefficient for the distribution of income in a population is measured under the assumption that there are no programmes (distribution of well-being before transfers). Specifically, inequality reduction is calculated as (inequality before transfers-inequality after transfers)/inequality before transfers. The indicator is estimated for the whole population and each programme.

3.   Towards social protection for every life

Social protection should not be considered an independent set of actions for children, adults or older persons (Cecchini and others, 2015) because individuals live through each stage and are affected by the policies implemented for each. The conditions in which persons reach their old age will reflect both individual ageing and generational issues significantly shaped by social protection.

Since the risk does not lie in passing from one stage to another, cohorts should not be analysed separately. The risks are poverty, disease, dependency, unemployment, hunger, and so on, which may strike a person, individually or as a family. Vulnerabilities stem from gender, age, ethnicity, race or migratory status, which, single-handedly or interrelatedly, increase exposure to risk and inequality. Structural discrimination exists when vulnerabilities persist from one generation to another.

Some authors criticise the lifespan approach for being normative, standardized and centred on institutional patterns (Krekula, Nikander and Wilińska, 2018), which may result in segregation between young and old people due to externally planned life scripts (education, raising a family, work and retirement) (Riley and Riley, 1994). However, when circumstances make it very difficult to modify the chronological criterion that defines a lifespan, the only thing to do is democratize the distribution of resources and opportunities for all.

According to several authors, there are three dimensions to social protection: (i) access to essential goods and services, (ii) prevention and protection and (iii) promotion of opportunities and capabilities for action (Bonilla García and Gruat, 2003; Quinn, 2021).

- Access to essential goods and services means giving the population the basic socio-economic security to flourish in life and work. Minimum floors of protection understood as a basic set of essential social guarantees, in cash and kind, considered pivotal in promoting basic income security and access to health care and in facilitating the enjoyment of several economic and social rights, must be established at a national scale (United Nations, 2015).

  OIL Recommendation 202 may be used to guarantee that people are covered on this dimension throughout their lifetimes. The Recommendation mentions that the minimum measures to be ensured are access to essential health care (including maternity and

paternity care), basic income security for children and access to nutrition, education and care for persons of active age who cannot earn sufficient income and for older persons (ILO, 2012).

- Prevention and protection mean anticipating the effect of possible risks. According to the United Nations, social protection measures can encourage the accumulation of productive assets and investment in physical and human capital, facilitate access to credit and help households manage risk (United Nations, 2018). Examples are unemployment insurance, support for diversifying income and skill training to improve employability in different life stages, to mention a few. Regarding health, these measures would include investments that reduce the risk of non-transmissible diseases and prevent teen pregnancy.

- Promoting opportunities and capabilities means reducing coverage gaps, insufficient or poor-quality benefits and the lack of access to social protection afflicting the members of groups that face barriers created by a society based on prejudices related to their identity or traits. According to the United Nations, discrimination reinforces the obstacles that these people face, creating unequal treatment regarding social protection and other public goods. These special or complementary measures must be taken to overcome the difficulties favouring exclusion (United Nations, 2017).

    Gerald Quinn, Special Rapporteur on the rights of persons with disabilities, considers that the social model based on participating in the labour market, where people satisfy their needs through market transaction networks, ignores the structural inequalities of the labour sphere that beset many groups. In the Rapporteur's opinion, social protection should not just aim to compensate for the labour market's falls but also to cement and build the autonomy of persons and their ability to act (Quinn, 2021). The above may require interventions such as reasonable adjustments or affirmative action, but it also implies going even further by creating long-term non-discriminatory integral social protection systems (United Nations, 2022b).

The three dimensions are interdependent and are displayed simultaneously. Under no circumstances is it a scale that moves from less to more because they are all equally important and must be applied in progression. Social protection systems must align with other available programmes and actions within the government's scope for them to work. It must be emphasized that the State must make the right to social protection effective and is first and foremost responsible for its compliance (United Nations, 2015). Also, each dimension is employed according to the risks and vulnerabilities that may concur in each society.

C.   Conclusions

This chapter has sought to provide an overview of demographic change in the subregion countries, emphasizing population ageing and the analysis of social protection systems. Demographic profiles differ widely among countries. Some are ageing, while in others the working-age population continues to grow. In the next thirty years, the analysed countries will undergo significant change. In several, the population will stop growing, and in others, given the population age structure, it will grow even more after 2050. Nevertheless, there are common phenomena, such as the increase in the median age in all countries compared to what it was at the beginning of this century (never had so many people lived for so long). This scenario presents challenges and opportunities. More than anything, it warns that adaptations to imminent demographic changes must be made as soon as possible.

This study also attempted to make clear that there is no homogeneous approach to ageing. Its impact on protection systems cannot be calculated using just one indicator (old-age dependency ratios), as other parts of the world have done. Therefore, this study presented alternative ways to weigh the repercussions of ageing on different aspects of social protection. Likewise, this study made it clear that when ageing is observed at a household level, the percentage of homes with older persons is higher than that of older persons compared to the whole population. This is important because the strategies to care for the needs of older persons are put into play within the intimacy of homes, which may often be households in the early stages of the family cycle with small children under their wing. Households display various economic, social and cultural resources to deal with these challenges, burdens and opportunities, creating new ways to organize genders, generations and kinships (Castells, 1999). Even so, they are not always flexible or autonomous enough to adapt to modern life and the duties of solidarity.

At present, it is not easy to reconcile work and family life, which impacts female work rates and the advantages of the so-called gender bonus. Although society demands that women participate in the labour sphere because they need to work or due to personal development reasons, it not always creates opportunities for such participation, especially for women in disadvantageous situations. It is the same for young people, who depend longer on their parents to prepare for the labour sphere and live independently.

The above is important for social protection policies. It is said that families are the fundamental element of society, but it often seems that social protection policies are not made for families. Today, families face growing difficulties in assuming obligations related to social breeding and care for kin of any age that depend on them. Despite all this, social protection measures focus on individuals, their autonomy and personal projects, thus undermining the creation, interdependency and cohesion of families (Mission of the State of Qatar to the UN and others, 2019).[14]

The second part of this study analysed social protection gaps, emphasizing the deep access gaps that often result in substandard living during certain life cycle moments. Obstacles that keep several groups (women, indigenous persons, rural population) from access to social protection make it clear that the subregion's societies are challenged by both demographic change and equality of access to social protection.

The situation is complex, given that countries are ageing, but the social institutions that should give protection are paralysed or moving backwards. As said before, organizing social protection is a political decision, not an inevitability. The rationale used by some places to make decisions would leave the management of risks throughout the lifespan to personal responsibility, individualizing such risks and favouring commodification and privatisation.

The challenge now is to reconstruct institutions so they can address the ever-growing range of social needs that arise from different kinds of demographic change (Phillipson, 2020, p. 221), referring to demographic changes that take place in deeply ingrained forms of exclusion that open gaps in social protection and other aspects of social and economic life. Consequently, it is fundamental to focus on providing people with the certainty of a decent life by reaching universal coverage of social protection systems. Given the shock created by the pandemic, as elaborated by Noemí Klein,[15] now is the time to go into a profound debate on how to face traditional and emergent risks and surpass residual social protection systems.

Life in society has changed, and these changes make it clear that, in the subregion and elsewhere, social protection must intervene in a broader range of aspects and more innovative ways (European Commission, 2023). The ever-present search for minimum well-being floors (assistance) must be complemented with new strategies and policies that protect against new vital contingencies, anticipate the risks they pose and bolster the emancipation of persons, families and communities. The State must emphatically address inequalities because its role is to guarantee fair distribution, not just of money, and to break the power imbalances that foster, create and maintain inequalities (Devereux and Sabates-Wheeler, 2004; Portes, 2017).

The magnitude of such an intervention requires building a consensus among States to effectively discharge their international human rights obligations regarding social protection. Hopenhayn and others (2014) explain this by saying that countries need to build social and fiscal covenants that let them implement and finance long- and medium-term policies and programmes to cast down poverty, reduce inequality and give full meaning to economic, social and cultural rights (p. 13).

Internationally, countries are committed to Sustainable Development Goal 1, to eradicate poverty for all people everywhere. Building this social covenant is now a task at the national level. Each country must implement their own systems and measures, as appropriate, to provide social protection, floor levels included, for everyone and, by 2030, to achieve comprehensive coverage for poor and vulnerable persons.

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[14] An example of sensible family policies would be to provide continuous support from birth (for instance, parental permits, flexible work hours, child education, care options, mediation in case of family conflict and positive paternity programmes) up to more advanced stages of the family life cycle (Garcia Aisa, 2022).

[15] See Klein (2007).

Bibliography

Arenas, A. and S. Cecchini (2021), "Igualdad y protección social: claves para un desarrollo inclusivo y sostenible", *El trimestre económico*, vol. LXXXIX, No. 353.

Bank of Spain (2019), *Informe Anual 2018*, Madrid.

Beazley, R., A. Solórzano y V. Barca (2019), *Protección social reactiva frente a emergencias en América Latina y el Caribe*, Oxford, Oxford Policy Management.

Bonilla García, A. and J. Gruat (2003), *Social Protection: A Life Cycle Continuum Investiment for Social Justice, Poverty Reduction and Sustaintable Development*, Geneva.

Castells, M. (1999), *La era de la información: economía, sociedad y cultura. El poder de la identidad*, vol. II, Mexico City, Siglo XXI.

Cecchini, S. and others (eds.) (2015), "Derechos y ciclo de vida: reordenando los instrumentos de protección social", *Instrumentos de protección social: caminos latinoamericanos hacia la universalización*, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

CEDAW (Committee on the Elimination of Discrimination against Women) (2010), *Observaciones finales del Comité para la Eliminación de la Discriminación contra la Mujer*, Panama, United Nations (CEDAW/C/PAN/CO/7) [online] https://www.acnur.org/fileadmin/Documentos/BDL/2010/7807.pdf.

CESCR (Committee on Economic, Social and Cultural Rights) (2022), O*bservaciones finales al cuarto informe periódico de Guatemala* (E/C.12/GTM/CO/4), Geneva, United Nations, 11 November.

_____(2021), *Observaciones finales sobre el quinto informe periódico de Nicaragua* (E/C.12/NIC/CO/5), Geneva, United Nations.

_____(2016a), *Observaciones finales sobre el cuarto informe periódico de la República Dominicana* (E/C.12/DOM/CO/4), Geneva, United Nations.

_____(2016b), *Observaciones finales sobre el segundo informe periódico de Honduras* (E/C.12/HND/CO/2), Geneva, United Nations.

Committee on the Rights of Persons with Disabilities (2014), *Observaciones finales sobre el informe inicial de México* (CRPD/C/MEX/CO/1), Mexico, United Nations [online] https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPRiCAqhKb7yhskE4iNFvKWCCGr4TiTUdbhp1hRBVKZKZHlLwRNlRdjmM5HXlP6Xo1vIipxOztb9bY%2FK7hzSTk5pSRirgwibOSZO3Djb2Fe2nSSsNQMYdzwpp.

DESA (Department of Economic and Social Affairs) (2023), *Leaving No One Behind in an Ageing World: World Social Report 2023*, New York.

_____(2022a), Database on Household Size and Composition 2022 [online database] https://www.un.org/development/desa/pd/data/household-size-and-composition.

_____(2022b), *World Population Prospects 2022*.

Del Castillo, M. (2023), "Procesamientos especiales de datos demográficos para la subregión", unpublished.

Devereux, S. and R. Sabates-Wheeler (2004), "Transformative social protection", *IDS Working Paper*, No. 232, Brighton, Institute of Development Studies.

European Commission (2023), T*he Future of Social Protection and of the Welfare State in EU*, Brussels.

_____(2021), *Libro verde sobre envejecimiento: fomentar la solidaridad y responsabilidad entre generaciones*, Brussels.

García Aisa, M. (2022), "Mejorar la vida de todas las familias", Mesa 3: construyendo derechos. Conciliación, cuidado y crianza, Evolving Family Models in Spain: A New National Framework for Improved Support and Protection for Families, Organization for Economic Cooperation and Development (OECD).

GBD (Global Burden Disease-Healthcare Access and Quality Collaborators) (2019), "Assessing performance of the Healthcare Access and Quality Index, overall and by select age groups, for 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019", *The Lancet Global Health*.

Gietel-Basten, S., S. E. G. Saucedo and S. Scherbov (2020), "Prospective measures of aging for Central and and South America", *PLoS ONE*, vol. 15, No. 7, 24 July.

Hopenhayn, M. and others (2014), *Pactos sociales para una protección social más inclusiva*, Santiago de Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Huenchuan, S. (2012), "Igualdad y universalidad de los derechos humanos", *Los derechos de las personas mayores en el siglo XXI: situación, experiencias y desafíos*, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC)/Gobierno de la Ciudad de México.

ILO (International Labour Organization) (2023), World Social Protection Data Dashboards [online] https://www.social-protection.org/gimi/WSPDB.action?id=32 (

_____(2022), *Panorama laboral de los Pueblos Indígenas en América Latina: la protección social como ruta hacia una recuperación inclusiva frente a la pandemia de COVID-19*, Geneva.

_____(2021), *Informe Mundial sobre la Protección Social 2020-2022: La protección social en la encrucijada – en busca de un futuro mejor*, Geneva.

_____(2012), Normlex: Information System on International Labour Standards, R202 - Social Protection Floors Recommendation, 2012, No. 202 [online] https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INS.

Klein, N. (2007), *La doctrina del shock: el auge del capitalismo del desastre*, Madrid, Paidós.

Krekula, C., P. Nikander and M. Wilińska (2018), "Multiple marginalizations based on age: gendered ageism and beyond", *Contemporary Perspectives on Ageism,* L. Ayalon y C. Tesch-Römer (eds.), Sprikger Link.

Mission of the State of Qatar to the UN and others (2019), *Towards Family Sensitive Social Protection*, New York.

National Academy of Medicine (2022), *Global Roadmap for Healthy Longevity*. Washington, D.C., The National Academies Press [online] https://doi.org/10.17226/26144.

OAS (Organization of American States) (2015), Convención Interamericana sobre la Protección de los Derechos Humanos de las Personas Mayores [online] http://www.oas.org/es/sla/ddi/docs/tratados_multilaterales_interamericanos_a-70_derechos_humanos_personas_mayores.pdf.

PAHO (Pan American Health Organization) (2023), Health in the Americas, Country Profile – Haiti [online] https://hia.paho.org/en/countries-22/haiti-country-profile.

Phillipson, C. (2020), "Austerity and precarity: individual and collective agency in later life", *Precarity and Ageing. Understanding Insecurity and Risk in Later Life*, A. P. Greniee and others, Bristol, Policy Press University of Bristol.

Piketty, T. (2021), *Una breve historia de la igualdad*, Bilbao, Deusto.

Portes, J. (2017), "Universal Basic Services. Discusion Paper", *Social Prosperity for the Future: A Proposal for Universal Basic Services*, London, Institue for Global Prosperity, Universitu Colleage London.

Quinn, G. (2021), "The right to social security at the heart of the new social contract. Intersessional panel discussion on the right to social security", Geneva, United Nations, Human Rights Council, 1 November 2021.

Riley, M. and J. Riley (1994), "Structural backwardness: past and future", *Age and Structural Retardation: Society's Failure to Provide Meaningful Opportunities in Work, Family, and Leisure*, New York, Wiley & Sons.

Robine, J. (2021), *Ageing Populations: We are Living Longer Lives, but Are We Healthier?* (UN DESA/POP/2021/TP/NO.2), New York.

Robine, J. and S. Cubaynes (2017), *Worldwide Demography of Centenarians: Mechanisms of Ageing and Development*, vol. 165, Part B.

Sanderson, W., y S. Scherbov (2019), *Prospective Longevity. A New Vision of Population Aging*, Cambridge, Harvard University Press.

Scherbov, S. and W. Sanderson (2016), *New Approaches to the Conceptualization and Measurement of Age and Aging*, Laxenburg, International Institute for Applied Systems Analysis (IIASA).

Sieber, S. and others (2022), "Social protection expenditure on health in later life in 20 European countries: spending more to reduce health inequalities", *Social Science & Medicine*, vol. 292, January [online] https://www.sciencedirect.com/science/article/pii/S0277953621009011?via%3Dihub.

Sotolongo, Y. (2023), "Sancti Spíritus: Natalidad en picada, ¿maternidad en pausa?", *CubaDebate*, 21 February.

Steering Committee for Human Rights (2012), "Draft preliminary study on the promotion of the human rights and dignity of the elderly existing standards and outstanding issues", 84th meeting of the CDDHBU, Strasbourg.

Tafadzwa, P. and others (2023), "Health interventions and the unseen impact on equality", *The Lancet Health Longevity*, vol. 4, No. 1.

United Nations (2022a), "Non-take-up of rights in the context of social protection. Report of the Special Rapporteur on extreme poverty and human" [online] https://documents-dds-ny.un.org/doc/UNDOC/GEN/G22/322/17/PDF/G2232217.pdf?OpenElement.

_____(2022b), "Resumen de la mesa redonda de un día de duración celebrada entre períodos de sesiones sobre el derecho a la seguridad social en el cambiante mundo del trabajo", Inform of the United Nations High Commissioner for Human Rights, Geneva.

_____(2018), *Promoting Inclusion through Social Protection: Report on World Social Situation 2018*, New York.

_____(2017), "Situación social en el mundo 2017: promoción de la inclusión a través de la protección social", Secretary's note, New York.

_____(2015), "Niveles mínimos de protección social: un elemento esencial del derecho a la seguridad social y de los objetivos de Desarrollo Sostenible", New York.

WHO (Organización Mundial de la Salud) (2015), *Informe mundial sobre envejecimiento y salud*, Geneva.

Chapter V
Structural welfare gaps in Mexico from a comparative perspective[1]

Carlos Barba Solano[2]

Introduction

This chapter presents the findings of a project financed by ECLAC and IFAD in 2022 to study the structural obstacles impeding well-being in Mexico based on a comparative analysis with Argentina, Costa Rica and Panama using the structural gaps approach. The core problem with the welfare gaps approach is the distance between a country's per capita income and its level of access to and guarantee of fundamental social rights. It starts by recognizing that it is not appropriate to use the average income to account for institutional development in the field of social welfare,[3] nor to detect each country's major lags or establish their levels of social development (ECLAC, 2016a).

This work follows the perspective that the distributional dimension, fiscal policy and the specific characteristics of each welfare regime are central. It also considers it essential to compare Mexico to countries with similar per capita income levels but with different accumulation and welfare regimes to identify, quantify and prioritize the obstacles and long-term bottlenecks that prevent sustainable, equitable and sustainable growth (ECLAC, 2016a).

1. Theoretical framework

The fundamental theoretical reference followed by this study is the structural gaps approach, which diagnoses the structural obstacles that impede productive, sustainable and inclusive development in middle-income countries (ECLAC, 2016a; Gaudin and Pareyón, 2020). Structural gaps are revealed as profound historical inertias linked to old patterns of wealth distribution, deeply rooted gender inequalities and a culture of privilege that is more acute in countries with a larger indigenous or Afrodescendent population (ECLAC, 2016b).

ECLAC deems it necessary to diagnose, identify, quantify and prioritize these obstacles and long-term bottlenecks for development. From this perspective, each gap requires classification that reflects each country's levels of development in particular areas (ECLAC, 2016a, p. 14). ECLAC (2012) proposed a set of 11 gaps whose nature is economic, socioeconomic or well-being (see table V.1). However, it has since become clear that this was only a starting point, a set of benchmarks for analysis framed by a flexible perspective that could incorporate other gaps or focus only on a specific group of them because their relevance may vary from one country to another, depending on the approach's central objective. This explains why this approach has encompassed other gaps: socioeconomic, assets and social well-being (ethnic and racial, and public goods) (ECLAC, 2016a; Gaudin and Pareyón, 2020).

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[2] With the collaboration of César Augusto Ricardi.
[3] The concept of social well-being refers to the capacity developed by society, to varying degrees, to cope with and manage a structure of social risks, which can be class, life cycle, intergenerational, gender, ethnic and racial (Barba, 2021, pp. 15-16).

Table V.1
Gradual and open incorporation of different types of gaps

Types of structural gaps	The first 11 gaps	Gaps introduced later
Economic	Per capita income Investment and savings[a] Productivity and innovation[b] Infrastructure[c] Taxation[d]	
Socioeconomic	Income inequality[e] Poverty[f]	Assets[k]
Social welfare	Education[g] Health[h] Gender[i] Environmental[j]	Ethnic and racial[l] Public goods[m]

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *El enfoque de brechas estructurales: análisis del caso de Costa Rica*, Santiago, 2016a and Y. Gaudin and R. Pareyón, "Brechas estructurales en América Latina y el Caribe: una perspectiva conceptual-metodológica", table 2, *Project Documents* (LC/TS.2020/139; LC/MEX/TS.2020/36), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC), 2020 [online] https://repositorio.cepal.org/bitstream/handle/11362/46435/1/S2000836_es.pdf.
[a] Disparity in the capacity to save and invest among population groups and companies due to financial and investment restrictions.
[b] Productivity inequality between production units associated with low productivity due to education or health and discrimination based on sex or ethnicity.
[c] Differentiated access to infrastructure by population groups.
[d] Effectiveness of the tax burden to modernize production structures and achieve greater social equality.
[e] Inequality of income received by self-employed and wage earners, in contextual and structural terms.
[f] Multidimensional poverty among individuals and social groups, poverty at the territorial level, associated with inequality gaps in income, education and gender.
[g] Differences in education access, permanence, graduation and quality between population groups and by geographic area.
[h] Differences in health access, levels and quality between population groups and by geographic area.
[i] Inequalities in access to education, health, employment and social protection attributable to gender inequalities.
[j] Inequalities between social groups and geographic areas in the incorporation of environmental sustainability criteria in development strategies.
[k] Differences in access to social, economic, cultural and symbolic capital between individuals and population groups.
[l] Inequalities in access to education, health, employment and social protection attributable to ethnic or racial inequalities.
[m] Inequalities in access and quality of public goods and services between population groups and geographic areas.

For structural gaps, it is vital to distinguish a horizontal analysis between countries and a vertical analysis within them. This analytical bifurcation allows for the proposal of two different types of gaps: horizontal ones, which measure the extent of inequalities between countries or groups of nations, and vertical ones, which measure inequalities and the extent of structural disparities within a country, either urban and rural (and their gradations) or between regions (Gaudin and Pareyón, 2020).

Mexico is the second-largest economy in Latin America and the Caribbean. It is considered an upper-middle-income country, with income levels similar to those of Argentina, Costa Rica and Panama. However, this does not imply a uniform convergence in growth,[4] poverty, inequality and effective access to the rights that guarantee social well-being[5] in this group of countries. Mexico is more challenged by economic stagnation, poverty, extreme poverty and social inequality than the other three countries, particularly in rural[6] and indigenous populations.

The core problem of the approach to structural gaps, particularly concerning well-being (welfare gaps), is that it is not appropriate to use average income to account for institutional development in the area of social well-being or to detect each country's main gaps in income or establish their level of social development (ECLAC, 2016a). It is believed that the differences in well-being between countries in

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[4]   Between 2000 and 2017, average annual GDP growth was 2.3% in Mexico and 4.1% in Costa Rica; between 2003 and 2013, this indicator reached 5.77% in Panama and 4.32% in Argentina (ECLAC, 2021).
[5]   These aspects will be compared further ahead.
[6]   Those who reside in populations of less than 15,000 inhabitants.

Latin America and the Caribbean result from economic factors (such as the transformations of accumulation regimes), their profound historical roots and inertias, and unequal trajectories in the formation of their welfare regimes (Barba, 2021).

As mentioned above, structural gaps can be diverse and can be found in access to social rights, poverty, access to educational and health services, infrastructure and taxation. In this context, the principal objective of this report is to study the structural welfare gaps that persist in Mexico, contrasting the size of its economy with effective access to the rights and enjoyment of well-being (Gaudin and Pareyón, 2020).

This task compares Mexico to three countries with high average per capita income levels: Argentina, Costa Rica and Panama. This comparison's richness lies in the fact that these countries are distinguished by having developed different forms of capitalism and welfare regimes, having unequal percentages of indigenous or Afrodescendent populations, and having achieved unequal and, in some cases, contrasting achievements in the reduction of poverty. Marked inequality in income distribution prevails in all cases, though it is greater in some than others.

2. Methodological framework

a) The contextual framework

The comparative analysis context of the horizontal gaps between Mexico, Argentina, Costa Rica and Panama implies two structural coordinates intersecting each case, though they do not imply symmetrical variations. It covers the characteristics of their welfare regimes and the forms of capitalism that distinguish them, have repercussions on transformations in their social risk structures, and have led to numerous social reforms. The types of welfare regimes were developed during industrialization via import substitution, an obligatory historical benchmark for comparing how these four countries have transformed.

According to the typology proposed by Barba (2007 and 2021), during the stage mentioned above, Argentina and Costa Rica had universalistic regimes (see table V.2) characterized by having instituted redistributive social states, which promoted the expansion and universalization of social rights and social security linked to formal employment. In Argentina, during the long authoritarian period that ended in 1983,[7] this ensemble developed broad social citizenship but not civil or political citizenship. These three forms of citizenship developed harmoniously in Costa Rica.

For their part, Mexico and Panama are categorized as dual regimes, which are distinguished by having developed social States with redistributive scopes more limited than those of Argentina and Costa Rica; they did not promote the universalization of social rights, but they did promote social security linked to formal employment. The four compared cases shared the roles and responsibilities of women in providing care in their families and households, which also conferred a conservative hue to the well-being regimes in Mexico and Panama (Barba, 2007 and 2021).

The transition to democracy took place late in Mexico and Panama, and the consolidation of political and civil citizenship faced severe restrictions (1994 for Panama[8] and 2000 for Mexico). On the other hand, social citizenship did not reach large segments of the population because indigenous people, farmers and Afrodescendants were still excluded from a wide range of rights and access to social services. Indicators in Mexico and Panama of formal employment, social spending, social security coverage, education and health were lower than those in Argentina and Costa Rica, and their indicators of poverty, inequality and job insecurity were higher (see table V.2 and Barba, 2017).

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[7]   The military dictatorship governed from 1976 to 1983 until the election of Raúl Alfonsín (Unión Cívica Radical).
[8]   After the US invasion in 1989, free elections were not held until 1994. In fact, there was no transparent electoral process from 1968 to 1994, when Ernesto Pérez Balladares was elected.

Table V.2
Mexico, Argentina, Costa Rica and Panama: comparative framework

Country	Level of national per capita income	Gini Index 2019	Population in poverty in 2019 (percentages)	Levels of human development, 2019	Type of welfare regime	Type of capitalism	Indigenous population 2010 (percentages)	Afrodescendent population (percentages)
Mexico	Medium high[a]	0.464	41.5	High	Dual liberalized	Industrial capitalism by subcontracting	15.1	1.2 (2015)
Argentina	Medium high	0.406[b]	27.2	Very high	Universalist	Neo developmental capitalism	2.4	0.15 (2010)
Costa Rica	Medium high	0.495	16.5	High	Universalist	Hybrid capitalism: industrial by subcontracting, combined with liberal rentier capitalism	2.4	8.0 (2011)
Panama	Medium high	0.506	14.6	High	Dual with universal advances	Hybrid capitalism: predominance of high-end services combined with extractive and agricultural activities[c]	12.3	9.2 (2010)

Source: Prepared by the author, on the basis of on data from the Economic Commission for Latin America and the Caribbean (ECLAC), *Los Pueblos Indígenas de América Latina. Avances en el último decenio y retos pendientes para la garantía de sus derechos,* Santiago, 2014 [online] https://www.cepal.org/es/publicaciones/37050-pueblos-indigenas-america-latina-avances-ultimo-decenio-retos-pendientes-la; World Bank, *Afrodescendientes en América Latina: hacia un marco de inclusión,* Washington, D.C., 2018 [online] https://openknowledge.worldbank.org/bitstream/handle/10986/30201/129298-7-8-2018-17-30-51-AfrodescendientesenLatinoamerica.pdf?sequence=5&isAllowed=y; United Nations Development Programme (UNPD), "Anexo estadístico," *Informe sobre Desarrollo Humano 2019. Más allá del ingreso, más allá de los promedios, más allá del presente: desigualdades de desarrollo humano en el siglo XXI,* 2019 [online] http://hdr.undp.org/sites/default/files/hdr_2019_es.pdf; Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es; C. Barba, *Los regímenes de bienestar en América Latina: estructura de riesgos sociales y sistemas de protección social. Historia de un desencuentro,* 2023.
[a] According to the World Bank (2021), upper-middle-income economies have per capita income fluctuating from US$ 4,096 to US$ 12,695. See World Bank (2021) [online] https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.
[b] Estimate based on the urban Gini 2010-2017.
[c] This type is proposed in a recent work (Barba, 2023).

As for accumulation regimes, Argentina, Mexico, Costa Rica and Panama evolved differently after the industrialization model crisis via import substitution of the 1970s and 1980s.[9] This is due to the new global division of labour brought on by the relocation of manufacturing to Latin America as part of global value chains, sociopolitical coalitions and historical legacies. Since the 1990s, Argentina and Mexico[10] have followed divergent models of capitalism (see table V.2). Argentina first went with reprimarization and then tried to resume its industrial experience, whereas Mexico chose to continue an industrialization process but reoriented to exports. Costa Rica and Panama followed partially different paths, though the former took a predominantly industrial approach to subcontracting, and the latter went for a financial services economy. All countries maintain a segment that produces primary goods, but its importance has decreased to greater or lesser extents.

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[9]   Our point of view is similar to the approach of the varieties of capitalism (Bizber and Théret, 2012; Bizberg, 2019) and moves away from neo-institutionalism that postulates the emergence of a new type of capitalism unique to all of Latin America and the Caribbean (Hall and Soskice, 2006; Schneider, 2009, Schneider and Karcher, 2010; Aguirre and LoVuolo, 2013).
[10]   Economies that sought to become industrialized in the 20th century.

b) The new risk structure and the social question

The current stage in the rise of new forms of regional capitalism (Bizberg and Théret, 2012; Bizberg, 2019; Barba, 2023) has caused changes in the structure of social risks. The most prominent are the following:

- New forms of poverty and vulnerability are found among middle-income sectors due to extensive precariousness and labour flexibility, deindustrialization processes, reduced public employment and erosion of institutionalized unions throughout the 20th century.

- The widespread incorporation of women into the labour market under more precarious conditions than men,[11] which has impacted tensions and transformations in the family structure.

- The emergence of new relationships between rural and urban areas has seen new income and work opportunities for those who work in rural areas, together with new inequalities that have transformed the social structure in rural areas.

- The exclusion of indigenous and Afrodescendent populations has continued, but now under the condition of migrants and in other spheres, such as agro-industries (Barba, 2020).

Thus, starting in the 1990s, Latin America experienced new social risks due to job insecurity and the financial crisis of the pension and social security systems. This led to the commodification at different levels of the pension, health and education systems. A new strategy was proposed to reduce poverty and create basic protection schemes for the poor and vulnerable through targeted programmes financed by minimum budgets to achieve maximum social protection coverage. This strategy translated into broad forms of inclusion for the vulnerable population (Barba, 2020 and 2021) and privileges for the transnational elite that concentrates income and wealth (Barba, 2020; Piketty, 2014).

However, on a global scale and in some Latin American countries such as Argentina and Costa Rica, the response to this minimalist strategy has placed reduction of inequalities and social gaps in different areas at the core of the social policy agenda:[12] education, health, income and universal pensions financed with public resources,[13] which aim to build universal social citizenship, overcome gender inequalities and recognize the social, economic and cultural rights of indigenous and Afrodescendent populations (Barba, 2018, 2019b, 2020 and 2021). The comparison of the social welfare gaps of the analysed countries is at this junction, but each one is at a different place. This is analysed in the next section.

A. Structural welfare gaps in Mexico: comparison with Argentina, Costa Rica and Panama

This section analyses the structural welfare gaps prevailing between Mexico, Argentina, Costa Rica and Panama. It considers the welfare trajectories of these four countries, which reveal the socioeconomic structures and characteristics of the welfare systems that create long-term gaps and explain the inequalities between them. The following list of gaps, resulting from analysis of the structural gaps related to the historical constitution of regional welfare regimes, of the transformations in the structure of social risks resulting from the new forms of regional capitalism, and of the structural gaps revealed by the COVID-19 pandemic, was compiled to compare the four countries: economic growth, income distribution, employment, wages, social protection, the State's fiscal space, public social spending, education, poverty and extreme poverty and care.

1. Economic growth gaps in the four countries

After two decades of slow economic growth, several countries in the Latin American region entered a cycle of economic growth that lasted the first three decades of the 21st century. Of the analysed countries,

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[11] Although the gap in the economic participation of men and women in the Americas closed significantly between 2000 and 2018, it is still broad. In 2000, men's participation was 62.6% and women's 46.4%. By 2018, male participation remained practically the same (66.3%), but that of women had grown to 54.5%; the gap was still over 10 percent (ECLAC, 2021b).

[12] See the Sustainable Development Goals (SDGs) set by the United Nations for 2030 comprised of 17 targets in five areas: people (end poverty; zero hunger; health and well-being; quality education and gender equality), the planet (clean water and sanitation; responsible production and consumption; climate action; underwater life; life in terrestrial ecosystems), prosperity (affordable and clean energy; decent work and economic growth; industry-innovation and infrastructure; reduced inequalities; sustainable cities and communities), peace (peace, justice and strong institutions) and partnerships (alliances to reach goals) (United Nations, 2015).

[13] Erroneously called non-contributory pensions.

Mexico experienced the lowest annual per capita GDP growth rate; starting with the highest level (US$ 9,254) in 1990, it ended the period lower than Argentina and Panama (see figure V.1). In 2020, due to the impact on national economies caused by the COVID-19 pandemic and health emergency, symptoms of decline were accentuated in the four national economies. A period of significant economic growth took place from 2003 to 2011.[14] However, the global crisis of 2008 caused an economic decline, followed by a rebound that lasted up to 2011 in some cases and up to 2012 in others. As of 2011, the economies' dynamism began to decline gradually until the consequences of COVID-19 were faced between 2019 and 2020 (see figure V.2).

Figure V.1
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: total annual per capita gross domestic product (GDP), 1990-2020
(Constant prices in 2010 dollars)
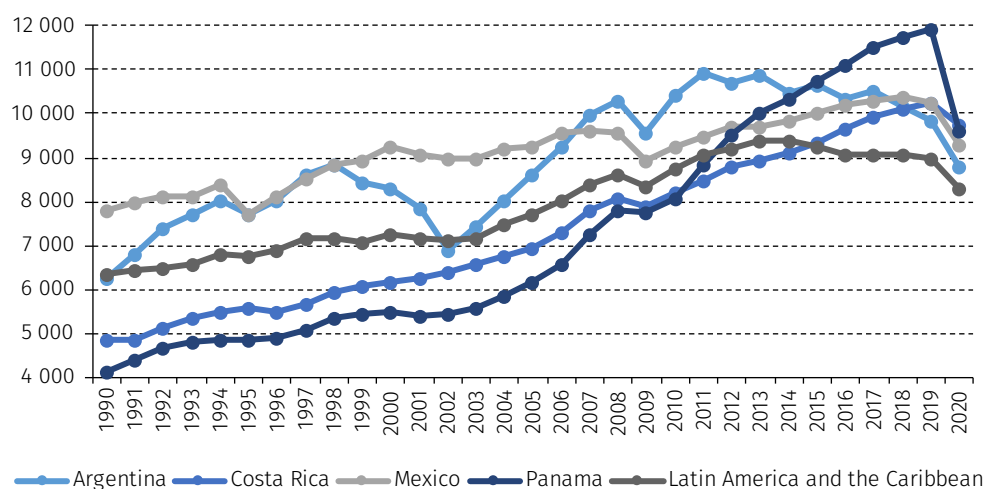
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.2
Argentina, Costa Rica, Mexico and Panama: annual GDP growth rate, 2000-2018
(Constant prices)
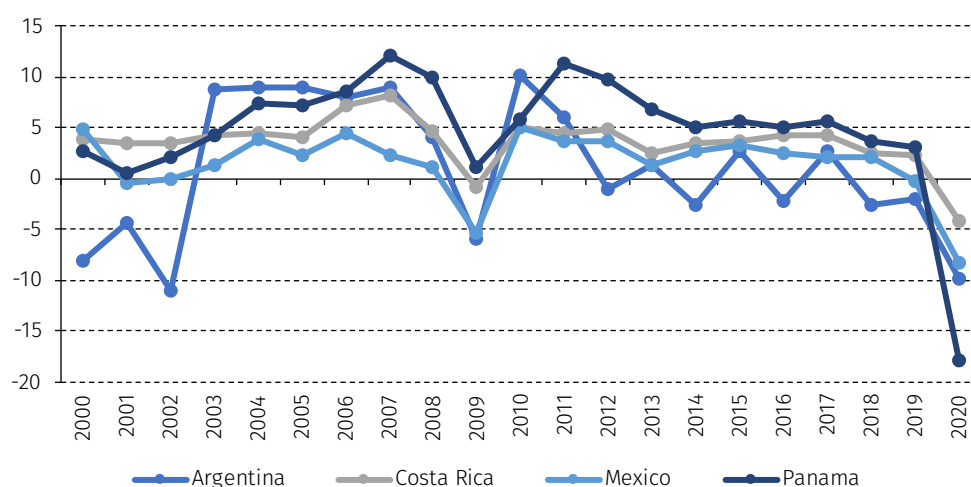
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

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[14]   Called the decade of gains.

Regarding per capita GDP, figure V.3 clearly shows the stagnation in Mexico between 2003 and 2013, precisely when the other Latin American countries had the highest growth. In contrast, Panama and Costa Rica achieved high GDP growth throughout the period, especially between 2003 and 2013 and 2014 and 2018. The Argentine case is characterized by low growth in the long term, similar to that of Mexico, but with a significant boom between 2003 and 2013, followed by a severe economic crisis between 2014 and 2018.

Figure V.3
Argentina, Costa Rica, Mexico and Panama: average growth rates of per capita GDP

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

These trends have given place to vast per capita GDP growth gaps between Mexico and Costa Rica and even wider ones with Panama. The gap with Costa Rica averaged 1.8 percentage points and 3.36 percentage points with Panama in the period shown. The COVID-19 crisis did not radically change this trend, except in the case of Panama, which suffered the most economic damage of the four countries due to the drop in world trade.

2.   Gaps in income distribution

Argentina, Costa Rica, Mexico and Panama saw a moderate reduction in income inequality between 2002 and 2019, as measured by household surveys. The decline occurred at two different times: between 2002 and 2017 in Argentina and Panama and between 2014 and 2019 in Costa Rica and Mexico. However, no profound changes are observed in this 17-year period, which confirms ECLAC's general vision of the reproduction of inequality in these four countries. Despite this, it should be noted that differences prevail between the four countries. The lowest value of the Gini index[15] corresponds to Argentina, while Panama and Mexico have the highest values.

The income inequality gap between Mexico and Panama has favoured the latter throughout the period. The gap with Costa Rica has varied. However, Mexico's Gini coefficient was consistently higher than Argentina's throughout the 17 years studied and higher than Costa Rica's for more than 12 years. Without diminishing the importance of these differences, the truth is that the level of inequality shown by this coefficient in Mexico, Panama and, in recent years, Costa Rica is very high, whereas it is relatively low in Argentina. It is worth noting that the information on this country only includes the urban population.

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[15]   When the Gini index has a value of "0," it represents the absence of inequality, whereas "1" denotes the maximum possible inequality.

Figure V.4
Argentina,[a] Costa Rica,[b] Mexico[c] and Panama, 2002, 2008, 2017 and 2019
(Gini coefficient)
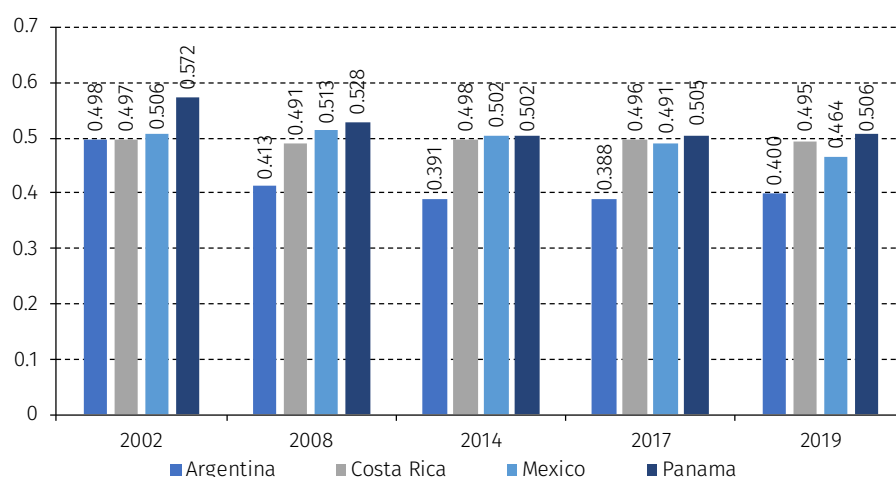
Source: Prepared by the author, on the basis of Economic Commission for Latin America the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table I.A2.3, p. 86 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Urban total.
[b] Figures from 2010 and later are not comparable with previous ones.
[c] Figures from 2016 (2017) and 2018 (2019) are not comparable with the previous ones, and figures from 2017 and 2019 correspond to 2016 and 2018.

The income inequality profile of Latin America was very similar to that of Costa Rica, Mexico and Panama in 2019. This gives greater relevance to each income source's distribution among the five income quintiles in Latin America. In 2019, cash transfers made by governments and other households were the only source of income in which low-income households had a more significant share (76% and 40%, respectively). However, their percentage in other income sources was very small (see figure V.5).

Figure V.5
Latin America (18 countries):[a] distribution of income from each source among quintiles 1 to 3, 4 and 5, 2019
(Percentages)
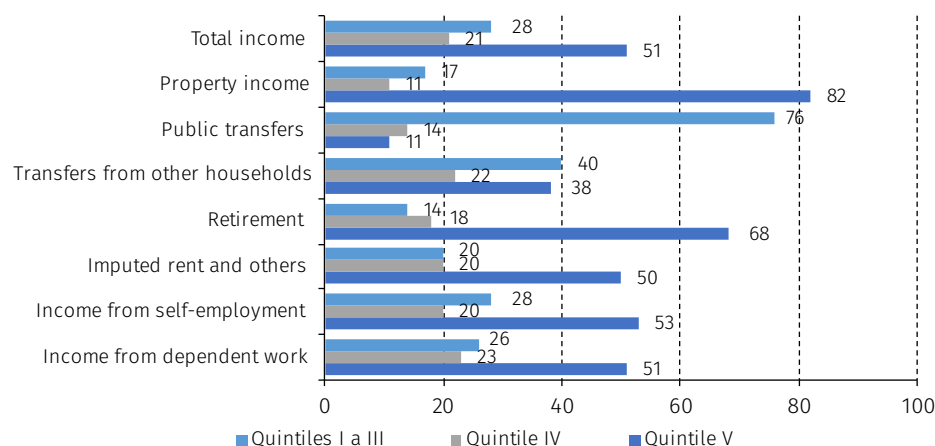
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, figure I.17, p. 72 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Weighted average for Argentina, the Plurinational State of Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Dominican Republic, Uruguay and the Bolivarian Republic of Venezuela.

In contrast, the participation of quintile 5 in all income sources—except for public transfers and between households—significantly exceeds its participation compared to the other quintiles. These data underline the enormous gaps in Latin America that separate upper-middle and upper-income segments from low and lower-middle-income sectors.

3. Employment gaps: labour informality

The low-productivity sectors in Latin American countries are characterized by what the structuralist approach (Pinto, 1965; ILO, 1972; Tokman, 1978) defines as small enterprises with a low production scale and scarce physical, economic and technological capital. This component was captured by using a proxy for the size of the productive economic unit, setting the threshold at five employees or less to be considered as the informal sector in the case of employers and qualified and unqualified wage earners.[16] Likewise, the low-productivity sector is regarded as the population that works as a family member, the unpaid, the self-employed (self-employed) and qualified and unqualified unpaid family members (ECLAC, 2021a).

When considering urban wage earners, the results show that Mexico had the highest levels of this population employed in the informal sector throughout the period (2000-2018), above the other countries and the Latin American average, with a trend towards growth that combined increases with stability, and no signs of reduction. They accounted for 17.1% of the sector at the start of the decade of gains (2002-2014) and 22.4% at the end, reaching 23.3% in 2018 (see figure V.6).

Figure V.6
Latin America, Argentina, Costa Rica, Mexico and Panama: urban wage earners in low-productivity sectors (informal sector) of the labour market, both sexes, 2000-2018
(Percentages)
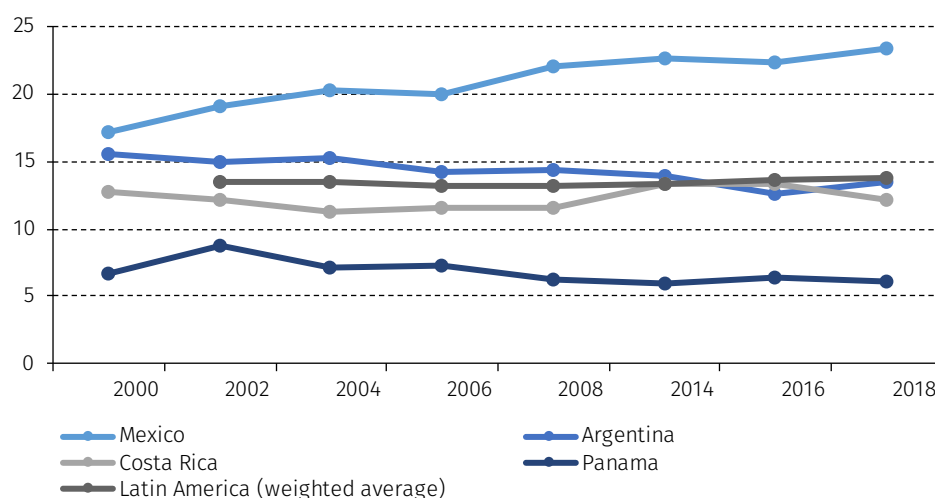
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.6 shows that while the informal sector affecting urban wage earners has not stopped growing in Mexico over the past 20 years, it has remained constant and close to the regional average in Argentina and Costa Rica. Panama's case is somewhat atypical, where labour informality is much lower and tends to be reduced, outlining a pattern lower than that of the other countries and the average for Latin America, which is the opposite of the Mexican case. At the end of the period, the gaps between nations and the average for Latin America disadvantaged Mexico since its trend towards informality continued to escalate.

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[16] This structuralist conceptualization of the informal sector that emerged in the 1960s, based on the size of the productive unit, can be challenged today insofar as there are currently micro-enterprises with five or fewer employees and very high returns, capital endowments and social security, which do not meet the conditions to be classified as informal labour.

Figure V.7 shows the average number of urban workers employed in the informal sector between 2000 and 2018 and serves to locate the gaps in this area between these four countries. On average, Mexico is 6.6 pp above Argentina, 8.9 pp above Costa Rica and 13 pp over Panama. This indicates that these four countries have large gaps in employment formality, which are systematically negative in the case of Mexico.

Figure V.7
Argentina, Costa Rica, Mexico and Panama: average of urban employed in the informal sector, 2000 to 2018

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.8 shows that levels of urban domestic employment in low-productivity sectors are lower than those recorded by urban wage earners throughout the period in all the countries except Panama and the regional average. Argentina and Panama had the highest levels before the international economic crisis in 2008. The crisis reversed positions, keeping the gaps of all the countries in almost the same range, but with Costa Rica and Argentina with the largest informal sectors for this occupational group.

Figure V.8
Argentina, Costa Rica, Mexico and Panama: urban domestic employment in low-productivity sectors (informal sector) of the labour market, both sexes, 2000 to 2018
(Percentages)
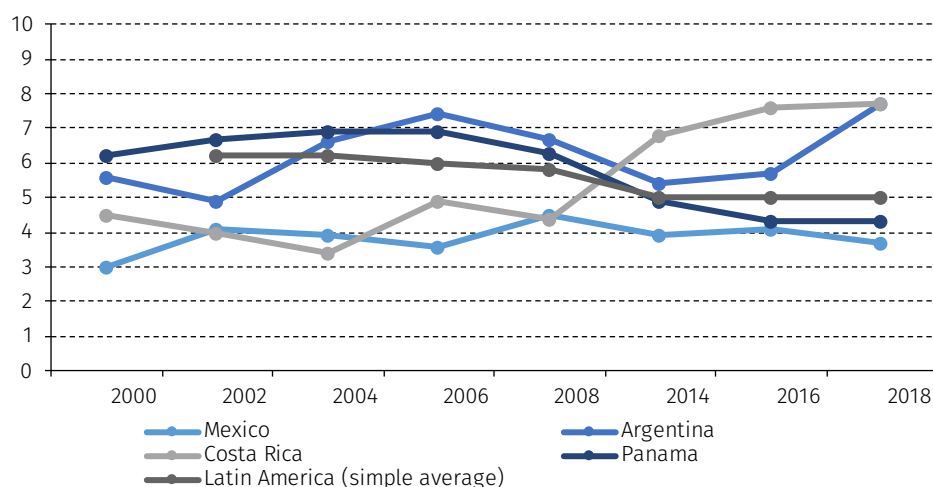
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Analysis of the series of urban unqualified self-employed workers in the informal sector shows that this group of countries was below the Latin American average during 2000–2018. At the end of these 18 years, the gap between the four countries was wider than at the start: Panama was near the regional average, Argentina was above Costa Rica, and Mexico was at the lowest level (see figure V.9).

Figure V.9
Argentina, Costa Rica, Mexico and Panama: urban unskilled self-employed workers in low-productivity sectors (informal sector) of the labour market, both sexes
(Percentages)
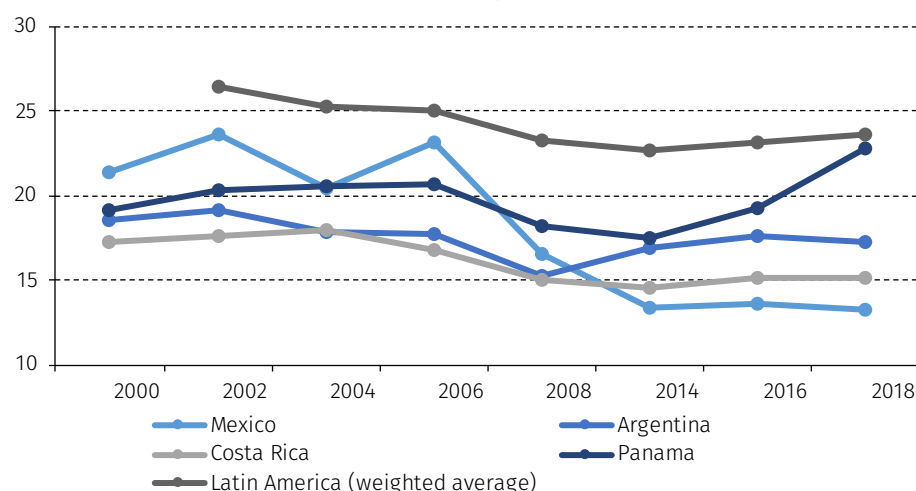
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Mexico's reduction of urban unqualified self-employed workers in the informal sector from 2006 to 2014, which then went to a standstill, had its counterpart in the informal sector of urban wage earners, which increased in the same period, widening the gap with the other countries (see figures V.6 and V.9). When segmenting the total urban employed population in the informal sector by sex in the group of countries being compared, women had higher percentages of informality than men year after year during the entire period (2000–2018). However, the gap is much larger in Mexico than in the other countries, where even the disparity by sex outlined a closing pattern and, eventually, in certain years, reversed the relationship (see figures V.10, V.11, V.12 and V.13).

Figure V.10
Mexico: total urban employed in low-productivity sectors (informal sector) of the labour market by sex, 2000 to 2018
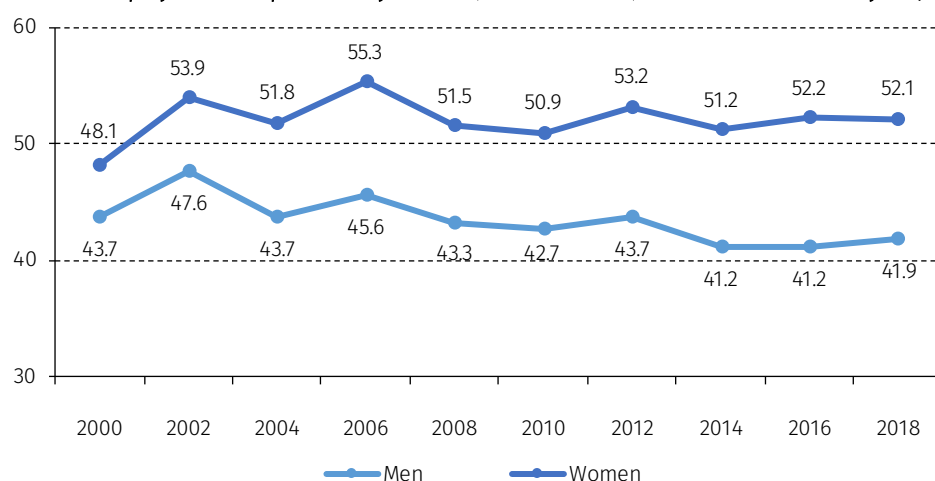
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.11
Argentina: total urban employed in low-productivity sectors (informal sector) of the labour market by sex,
2000 to 2019
(Percentages)
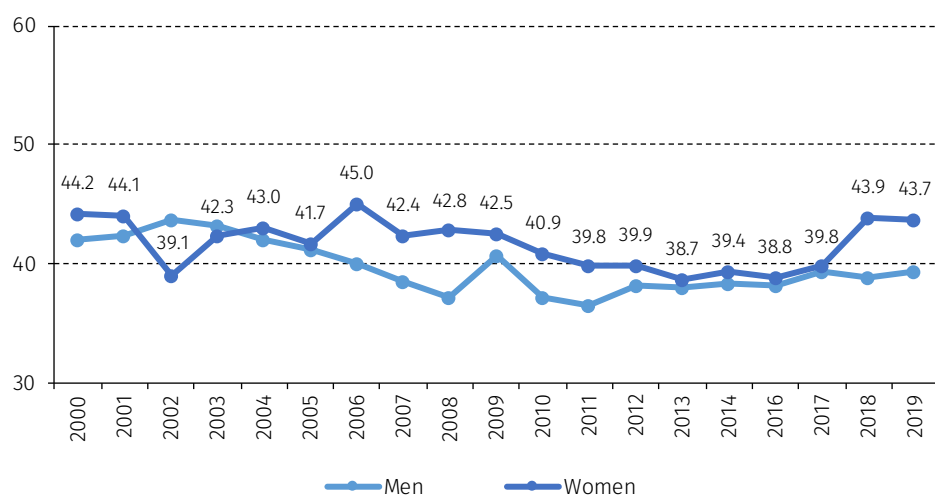
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.12
Costa Rica: total urban employed in low-productivity sectors (informal sector) of the labour market by sex, 2000-2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

Figure V.13
Panama: total urban employed in low-productivity sectors (informal sector) of the labour market by sex, 2000-2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

4. Pay gaps

a) The distributive impact of wages

Mexico's distribution between 1980 and 2015 contrasts with that of the other countries. Its labour share of GDP and value added was systematically lower than that of the other three countries (see figure V.14). In Mexico, the percentage of income corresponding to labour fell by 12 pp (from 39% to 27%) between 1980 and 2015. This distribution had its most drastic change between 1980 and 1990, and then its inequality subsequently stabilized.

Figure V.14
Argentina, Costa Rica, Mexico and Panama: labour share of GDP, 1950 to 2012
(Average percentage)
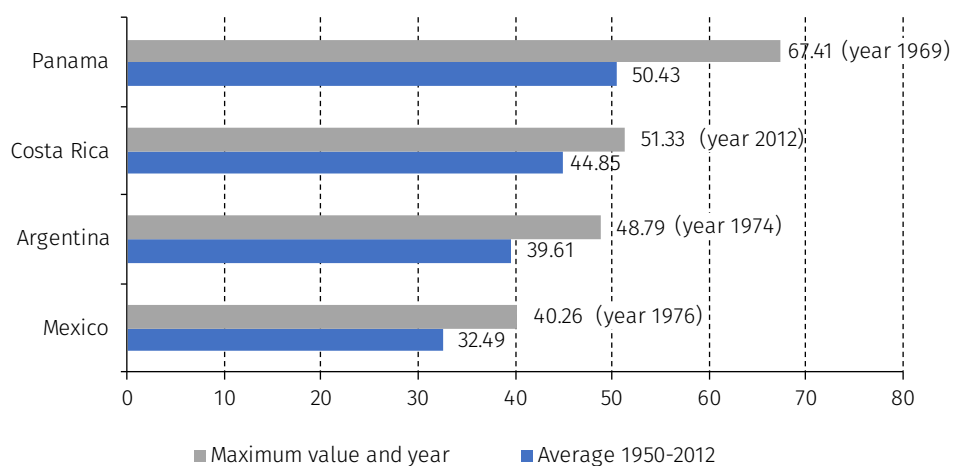
Source: Prepared by the author, on the basis of G. Alarco, "Distribución factorial del ingreso y regímenes de crecimiento en América Latina, 1950-2012", *Revista Internacional del Trabajo*, vol. 135, No. 1, 2016, table 1, p. 90 [online] http://trabajodigno.pe/wp-content/uploads/2016/02/ALARCO-Distribuci%C3%B3n-del-Ingreso-OIT-2016.pdf.

Figure V.15
Mexico: evolution of functional income distribution, 1980-2016
(Percentages)
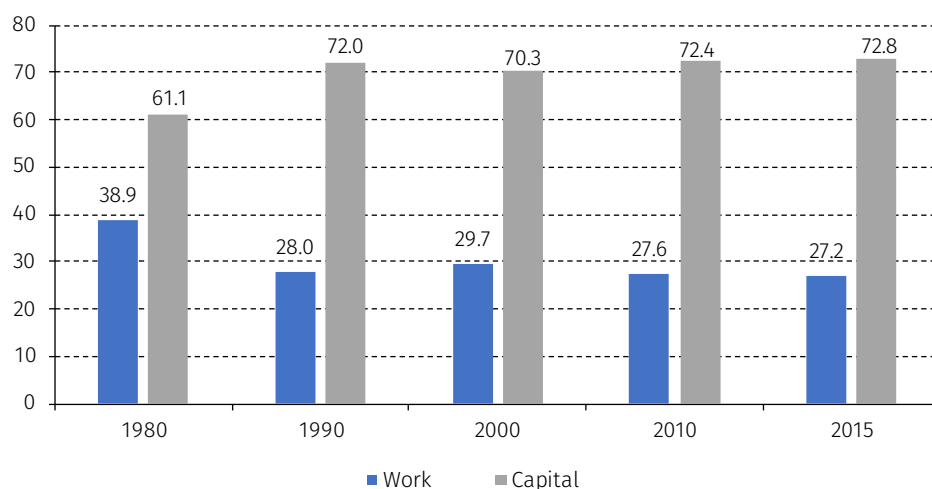
Source: Prepared by the author, on the basis of A. Puyana, "El neo-extractivismo en la economía latinoamericana: efectos sobre la desigualdad y el crecimiento", *Políticas Sociales en América Latina en los Inicios del Siglo XXI. Innovaciones, inercias y retrocesos,* C. Midaglia, G. Ordoñez and E. Valencia (coords.), Tijuana, Consejo Latinoamericano de Ciencias Sociales (CLACSO) and El Colegio de la Frontera Norte (COLEF), 2018, table 6 [online] https://www.researchgate.net/publication/335477773_EL_NEO-EXTRACTIVISMO_EN_LA_ECONOMIA_LATINOAMERICANA_EFECTOS_SOBRE_LA_DESIGUALDAD_Y_EL_CRECIMIENTO.

According to UNDP (2017), Costa Rica had the highest share of wage labour in value added in the Latin American context of 2009, followed by Argentina and Panama. This again implies significant gaps that put Mexico at a disadvantage: 23.7 pp compared to Costa Rica, 13.2 pp to Argentina and 6.2 pp to Panama. These data show a profound deterioration in the centrality of wage labour in Mexico that has not been felt with the same intensity in the other three countries. This loss of centrality has directly impacted the levels of affiliation to pension and health systems linked to formal employment.

Figure V.16
Argentina,[a] Costa Rica, Mexico and Panama:[a] labour share in value added, 2010
(Percentages)
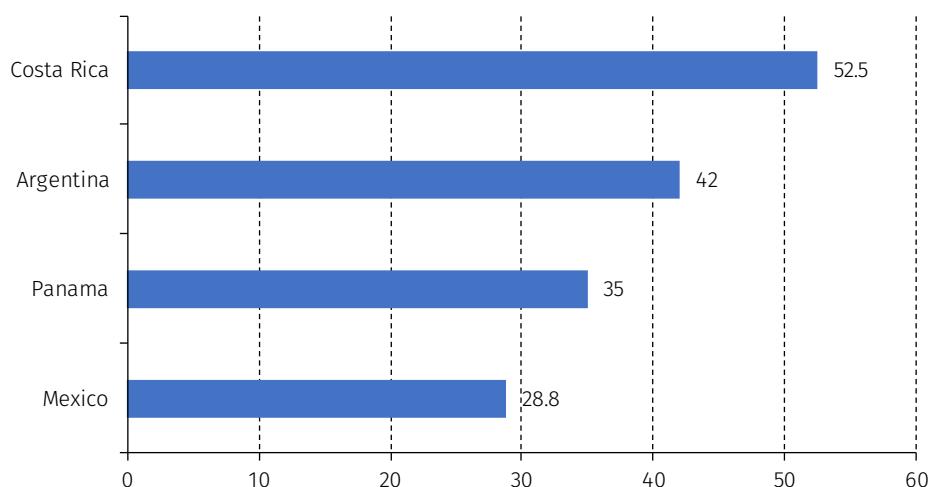
Source: Prepared by the author, on the basis of United Nations Development Programme (UNDP), *La evolución de las remuneraciones laborales y la distribución del ingreso en Uruguay*, 2017, figure R.4.1, p. 50 [online] http://retosalsur.org/wp-content/uploads/2013/09/undp-uy-cdh10-2018.pdf.
[a] The data for Argentina and Panama are from 2009.

b)   Gender gaps in average wages

Figure V.17 shows the women's average salary share compared to men's[17] and displays the behaviour of the gap between countries between 2000 and 2019. At the start of the 21st century, Argentina, Costa Rica, Panama and the Latin American average showed a higher average salary for women compared to men than Mexico. Their levels ranged from 80% to 90%, whereas Mexico's was 74.7%. By the end of the century's second decade, Mexico still showed the worst levels, cleaving away from Argentina, Costa Rica and Panama and even the Latin American average. Over the last 20 years, only Mexico did not significantly improve the urban wage ratio between sexes; Mexico's pattern was characterized by remaining below the regional average, which also grew.

Figure V.17
Latin America and the Caribbean (simple average), Argentina, Costa Rica, Mexico and Panama: urban wage to sex ratio, 2000 to 2019
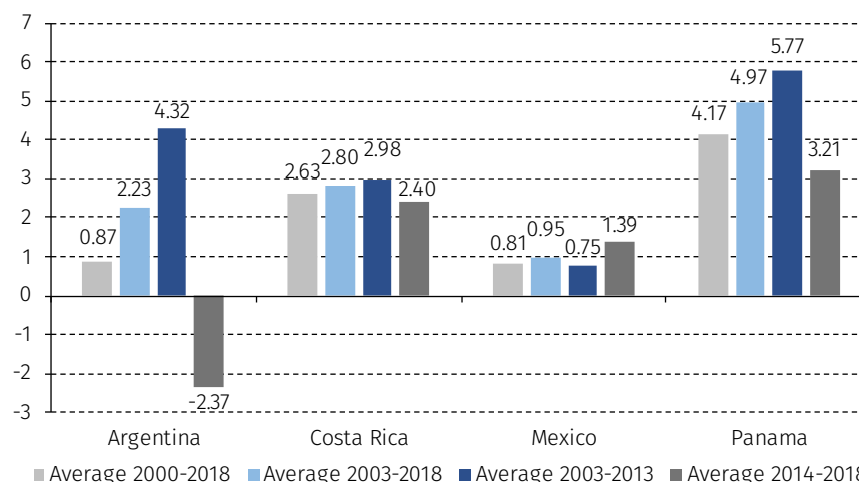*(Percentages)*
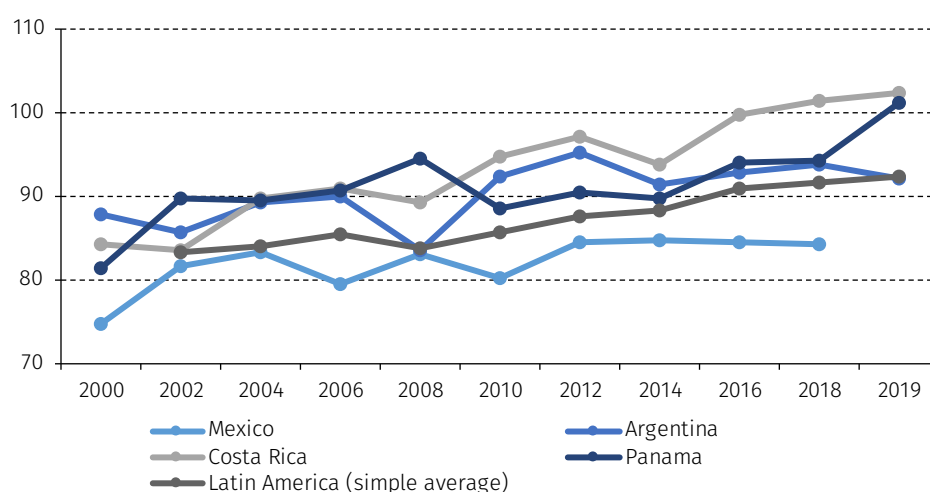
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2021 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?lang=es.

5.   Social protection gaps

The employment trends discussed above directly influence the behaviour of affiliation to the pension and health systems in the four countries.

a)   Affiliation to the pension system

By 2019, before the crisis, affiliation in these systems was higher in Argentina, Costa Rica and Panama than in Mexico. Overall, more women were affiliated than men, except in Panama, where more men were affiliated than women. However, while women's affiliation was higher than 66% in Argentina and Costa Rica, it was 50% in Panama and less than 30% in Mexico (see figure V.18). In these four cases, the differences in affiliation of employed persons to pension systems between wage earners and non-wage earners were notable (see figure V.19). The horizontal gaps between Mexico and the other three countries were just as sharp. Finally, the three countries had a very marked gap in the affiliation of employed persons to pension systems between the urban and rural populations, particularly in Mexico and Panama. The horizontal gaps between these three countries were also very significant (see figure V.20).

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[17]   Employed urban women between 20 and 49 years of age work 35 hours and more per week compared to men under the same conditions.

Figure V.18
Argentina, Costa Rica, Mexico[a] and Panama: affiliation or contribution of employed persons to pension systems, in total and by sex, 2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Figures for 2018.

Figure V.19
Argentina, Costa Rica, Mexico[a] and Panama: affiliation and contribution of employed persons to pension systems, total, wage earners and non-wage earners, 2019
(Percentages)
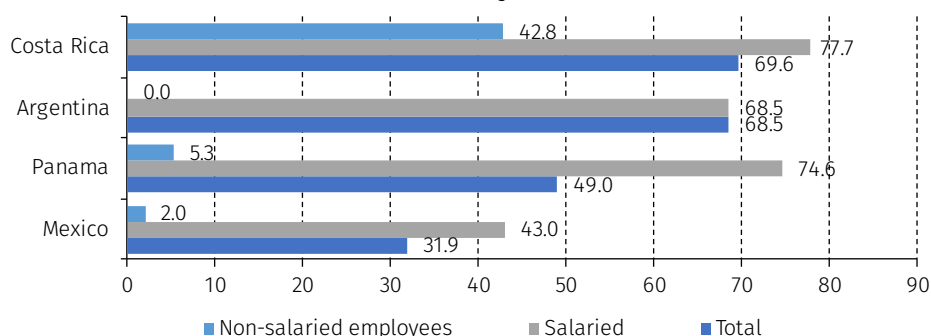
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Figures for 2018.

Figure V.20
Costa Rica, Mexico[a] and Panama: affiliation or contribution of employed persons to pension systems, total, urban and rural, 2019
(Percentages)
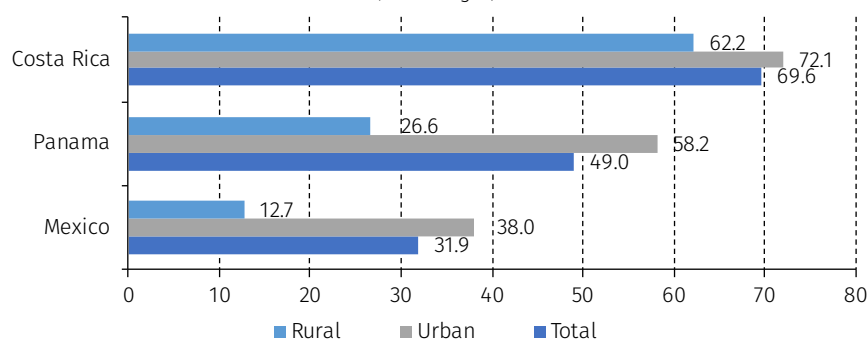
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Figures for 2018.
[b] Affiliation to health systems.

In the countries compared in this study, the affiliation of employed persons to the health systems showed considerable gaps in 2019, particularly between the levels reached by Argentina and Costa Rica and those by Mexico. The total affiliation gap for Mexico compared to Argentina and Costa Rica was very large (25.2 pp and 27.8 pp, respectively) (see figure V.21). On the other hand, the mentioned distances in the affiliation of men and women in 2019 were still observed. However, Argentina and Mexico displayed a trend towards a higher level of affiliation among women. The opposite was true in Costa Rica. In 2019, the affiliation gap between employed and non-wage earners in health systems was much larger in Mexico. Mexico's horizontal gaps are also significant compared to Argentina and Costa Rica (see figure V.22).

Figure V.21
Argentina,[a] Costa Rica and Mexico:[b] affiliation or contribution of employed persons to health systems, total and by sex, 2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Urban.
[b] Figure for 2018.

Figure V.22
Argentina,[a] Costa Rica and Mexico:[b] affiliation or contribution of employed persons to health systems, total, wage earners and non-wage earners, 2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Urban.
[b] Figure for 2018.

There were also larger gaps between the affiliation of urban and rural employed persons in Mexico and the other two countries. In Mexico, the gap between one and the other was highly significant; the

affiliation of urban workers was 2.5 times that of rural ones. These gaps were much smaller in Costa Rica (only 5.2 pp)[18] (see figure V.23). Despite these significant contrasts, the gaps in the availability of health resources were not unfavourable between 2010 and 2018, comparing Mexico to Costa Rica and Panama, both for doctors and the number of hospital beds for every 10,000 people (see figures V.24 and V.25).

Figure V.23
Argentina,[a] Costa Rica and Mexico:[b] affiliation or contribution of employed persons to health systems, total, urban and rural, 2019
(Percentages)
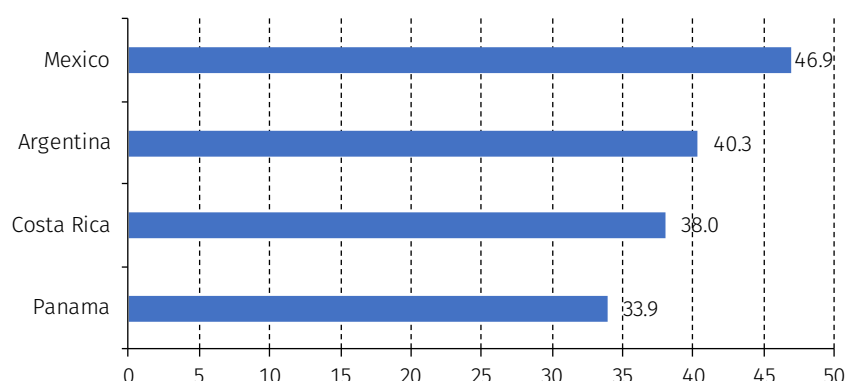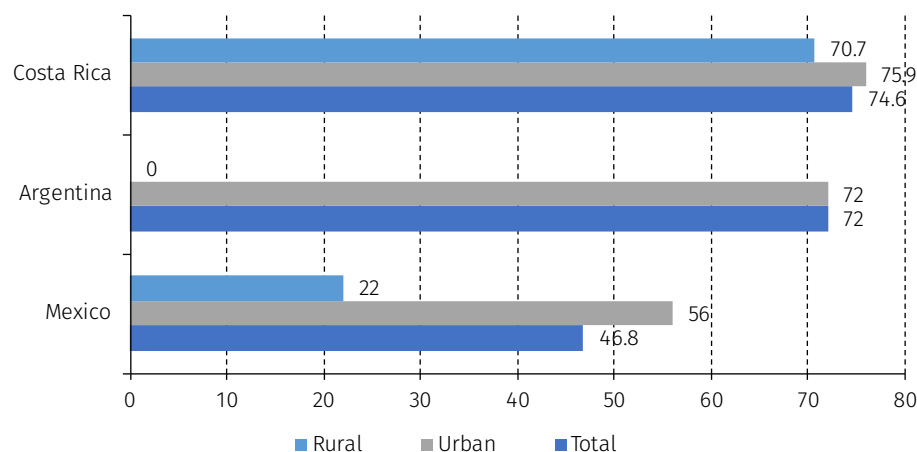

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020*, 2021b, table III.A1.1., pp. 146 and 147 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Urban.
[b] Figure for 2018.

Figure V.24
Argentina, Costa Rica, Mexico and Panama: doctors per 10,000 people, 2010-2018
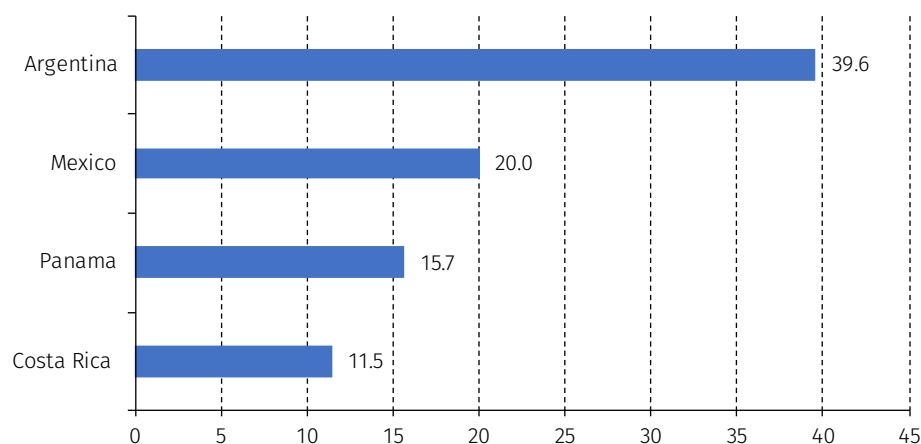
Source: Prepared by the author, on the basis of United Nations Development Programme (UNDP), *Informe sobre Desarrollo Humano. Más allá del ingreso, más allá de los promedios, más allá del presente: desigualdades de desarrollo humano en el siglo XXI*, 2019, indicator table 1, pp. 371-372 [online] http://hdr.undp.org/sites/default/files/hdr_2019_es.pdf.

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[18]   They cannot be detected in Argentina because no information is available.

Figure V.25
Argentina, Costa Rica, Mexico and Panama: hospital beds per 10,000 people, 2010-2018
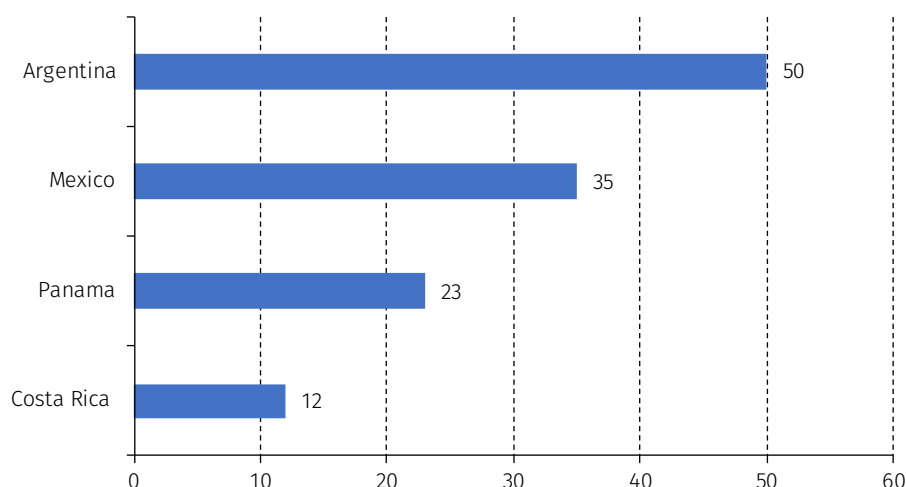
Source: Prepared by the author, on the basis of United Nations Development Programme (UNDP), *Informe sobre Desarrollo Humano 2019. Más allá del ingreso, más allá de los promedios, más allá del presente: desigualdades de desarrollo humano en el siglo XXI*, 2019, indicator table 1, pp. 371-372 [online] http://hdr.undp.org/sites/default/files/hdr_2019_es.pdf.

6.   Tax and social spending gaps

a)   Tax gaps

Revenue policy is a vital part of fiscal policy. Figure V.26 shows the tax revenue series for Argentina, Costa Rica, Mexico and Panama and the average for Latin America and the Caribbean from 1990-2018.[19] Argentina and Costa Rica had collection levels above 20% at that time. In contrast, those of Mexico and Panama were lower. A gap-widening pattern between countries is observed.

Figure V.26
Latin America and the Caribbean, Argentina, Costa Rica, Mexico: tax revenue as a percentage of GDP, 1990-2018
(Percentages)
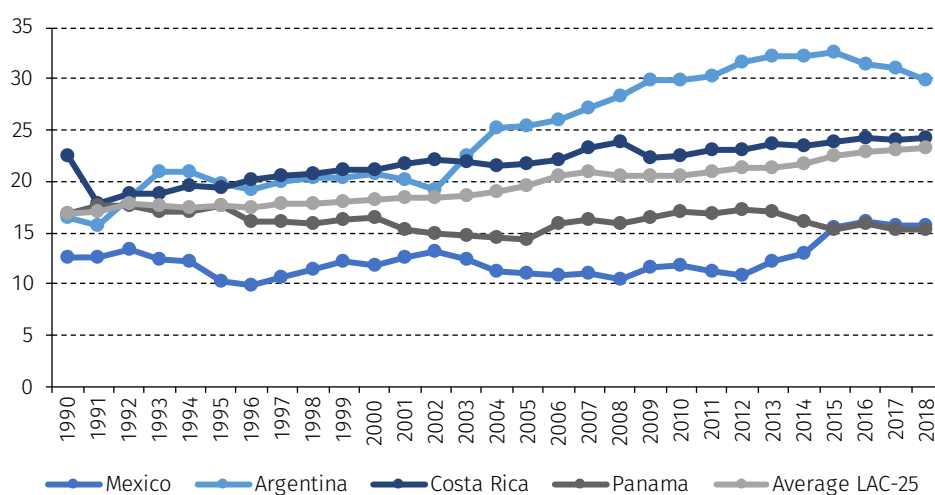
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT," 2021 [online] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

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[19]   Tax revenues are the sum of tax and social security contributions (pensions and public health).

In the long run (1990-2018), the collection of tax revenues from income and capital gains (ISR) as a percentage of GDP grew in Argentina and Costa Rica; in Mexico, it did so during the decade of gains. This was not the case in the 1990s; in Panama, it remained constant (1990–2018) (see figure V.27). Figure V.28 addresses tax revenue through general taxes on goods and services, referring mainly to value added tax (VAT). During the 1990-2018 period, Panama and Mexico had the lowest capacity for tax collection.

Figure V.27
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: income tax and capital gains (ISR) as a percentage of GDP, 1990-2018. Relative
(Percentages)
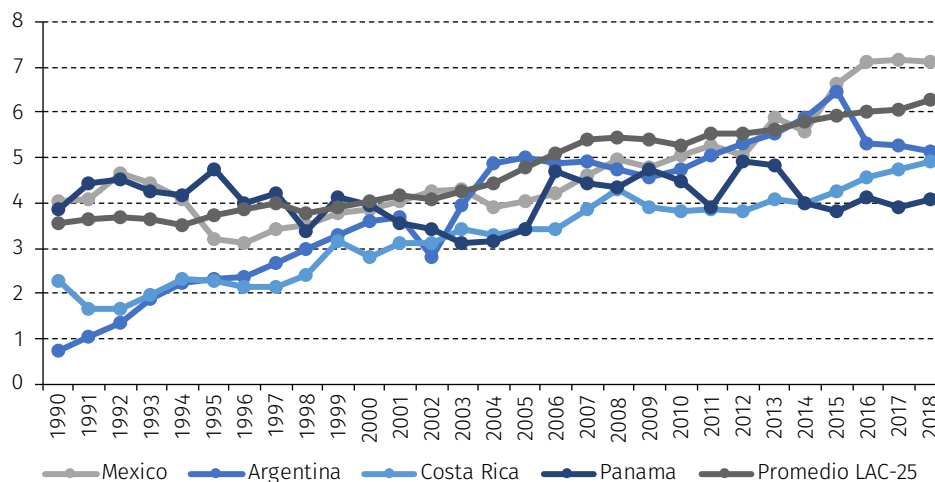
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT," 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

Figure V.28
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: general tax revenues on goods and services as a percentage of GDP, 1990-2018
(Percentages)
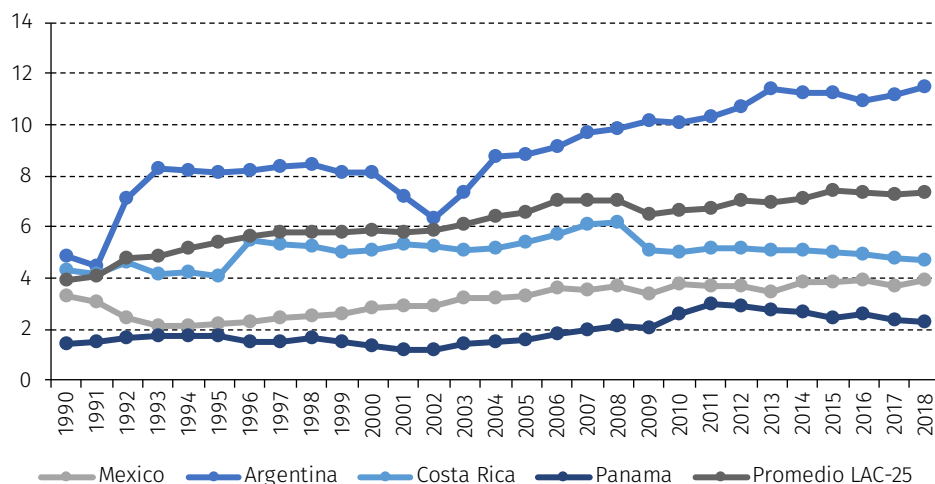
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT", 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

Figure V.29 addresses property tax revenue as a percentage of GDP. It shows that Mexico collected between 0% and 0.5% of GDP for this concept between 1990-2018, placing itself below the other countries and the Latin American average. The national tax burden also includes public and private social security system contributions. Regarding public social security contributions, Mexico has the lowest capacity to collect tax revenue (see figure V.30).

Figure V.29
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: property tax revenues, as a percentage of GDP, 1990–2018, relative
(Percentages)
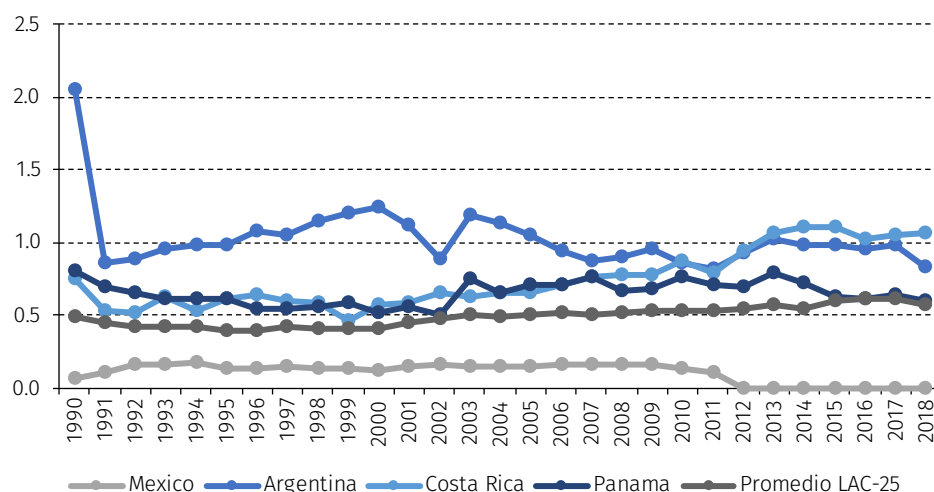
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT," 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

Figure V.30
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: contributions to social security systems as a percentage of GDP, 1990-2018
(Percentages)
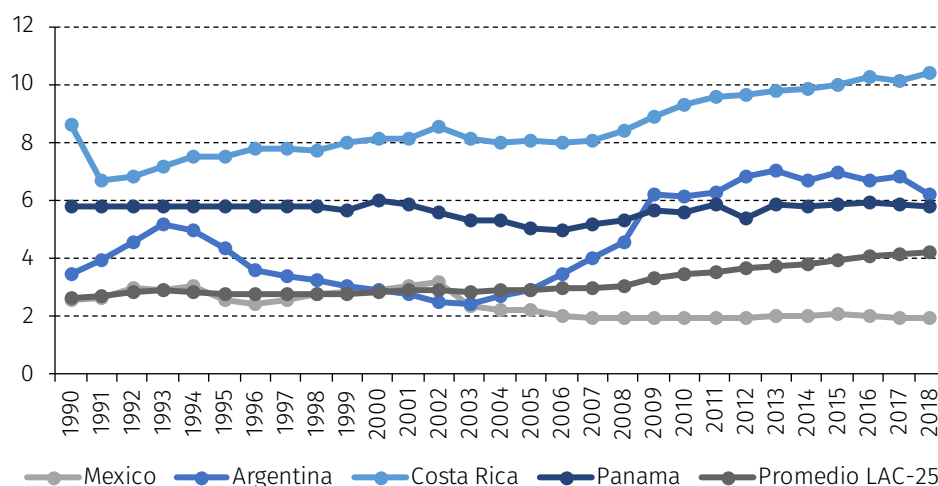
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT," 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

As shown in figure V.31, in Mexico, mandatory private social security contributions as a percentage of GDP did not rise but remained near the regional average and below that of the other countries throughout the period, except Panama, because it does not collect for this concept. The outlook is clear; Mexico has the least fiscal capacity of the four countries analysed in this report.

Figure V.31
Latin America and the Caribbean, Argentina, Costa Rica, Mexico and Panama: mandatory private contributions, as a percentage of GDP, 1994-2018
(Percentages)
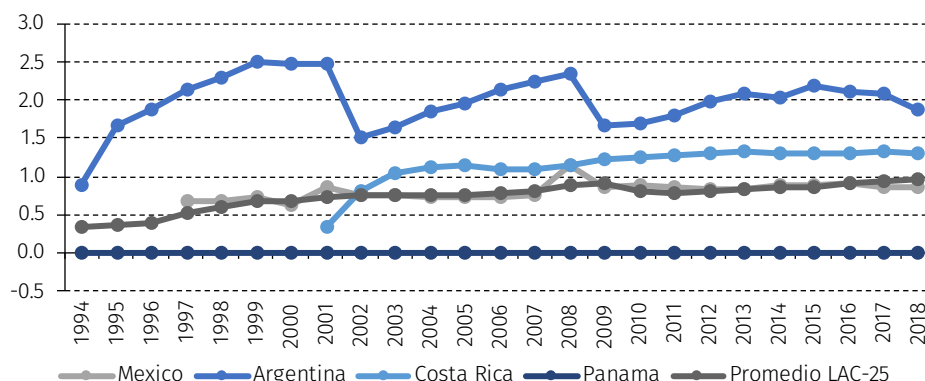
Source: Prepared by the author, on the basis of Inter-American Center of Tax Administrations (CIAT), "Base de datos de Recaudación BID-CIAT," 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

b)   Social spending gaps

Public social spending[20] as a percentage of GDP tends to converge between countries during the twenty-first century's first decade (the decade of gains). However, significant horizontal gaps appeared at the end of that period that worsened and persisted during the second decade (see figure V.32). Comparing the levels of average social spending, as a percentage of GDP, of Argentina, Costa Rica, Mexico and Panama, it is evident that throughout the 2000-2018 period, a gap remained between the first two and the last two countries (see figure V.33).

Figure V.32
Latin America, Argentina, Costa Rica, Mexico and Panama: public social spending, 2000-2018
(Percentages of GDP)
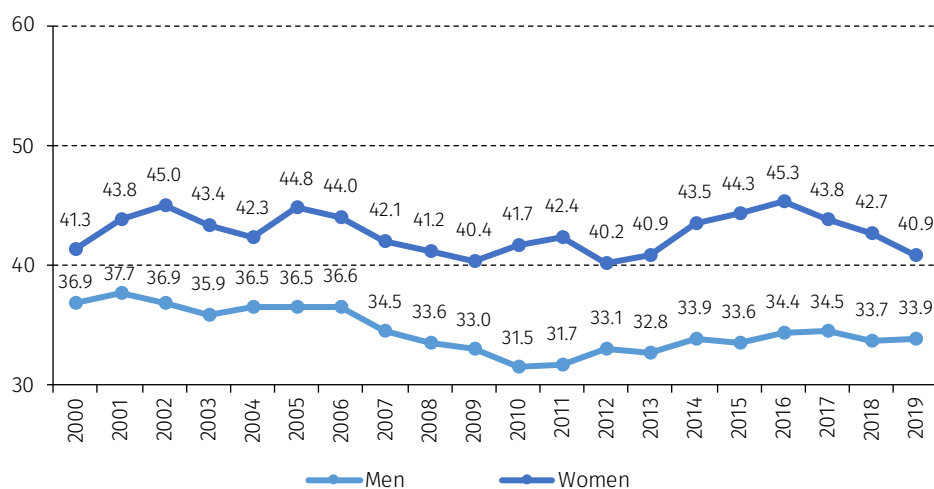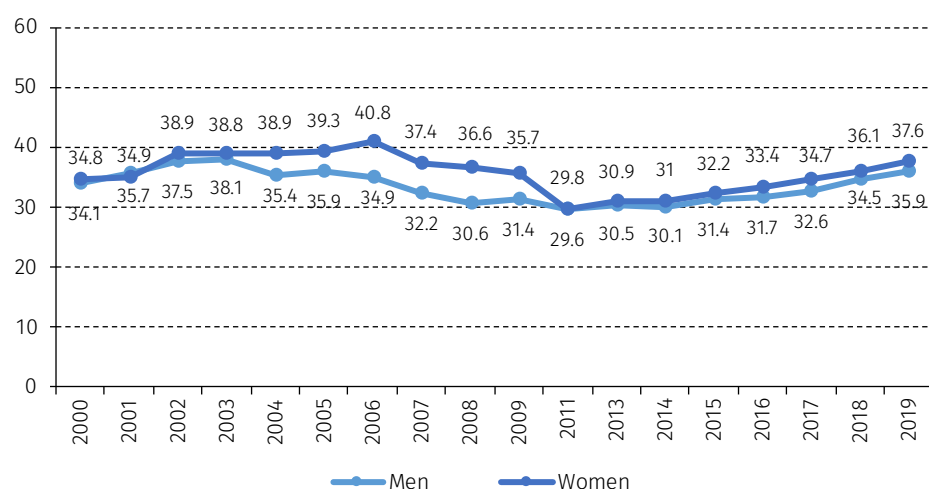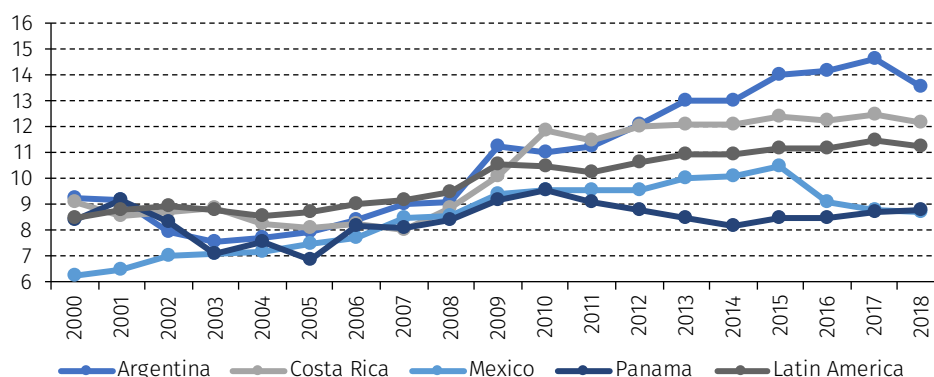

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
a Central governments: budgetary central government (central administration and decentralized entities), extrabudgetary central government and, in certain countries, social security funds (public system).

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[20]   According to ECLAC (2022), "public social spending" is defined as resources allocated to the following six functions: (i) environmental protection; (ii) housing and community services; (iii) health; (iv) recreational activities, culture and religion; (v) education; and (vi) social protection. It does not include pensions or state and municipal expenditures. It only includes central governments (see definition in figure V.54).

Figure V.33
Latin America, Argentina, Costa Rica, Mexico and Panama: average social spending, 2000-2018
*(Percentages of GDP)*
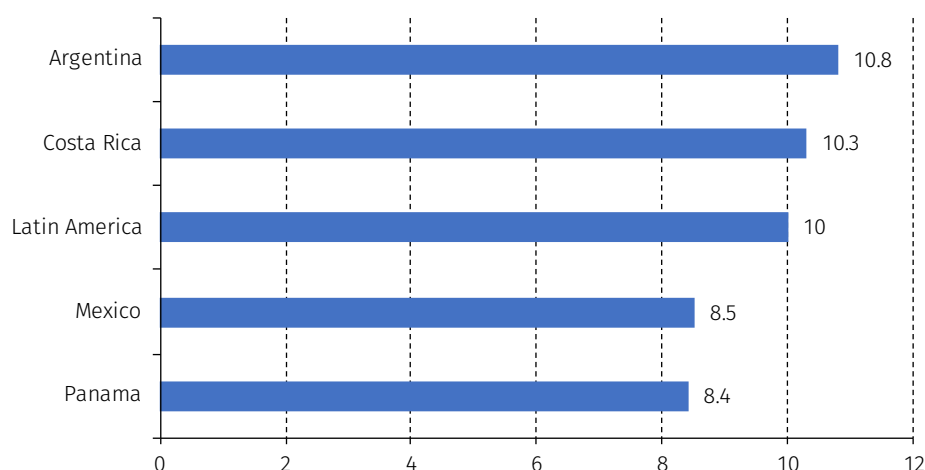
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

Examining public social spending as a percentage of GDP from 1990-2019, Argentina's spending on social protection[21] stands out. Public social spending in the other government functions remained below 2% throughout the period (1990–2019), except for health spending in the early years (1990–1992) (see figure V.34). In Costa Rica, public social spending on education, as a percentage of GDP, has been prioritized by different government administrations, even more than investment in social protection (see figure V.35).

Figure V.34
Argentina: public social spending by government function, 1990-2019
(Percentages of GDP)
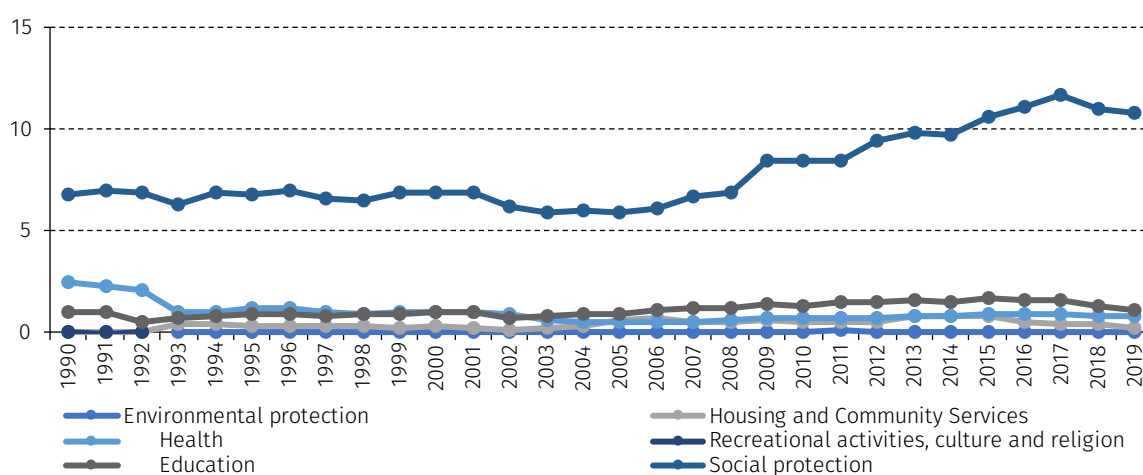
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

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[21]   Public spending on social protection refers to disbursements for services and transfers to individuals and families that cover the following social protection subfunctions: illness and disability, old age, survivors, family and children, unemployment, housing and social exclusion. This function covers risks that the entire population may face (for example, illness, old age and unemployment) and risks associated with structural problems, such as poverty and inequality (social exclusion sub-function, which includes, for example, conditional cash transfer programmes or CCT) (ECLAC, 2021b).

Figure V.35
Costa Rica: public spending by function of government, 1993-2019
(Percentages of GDP)
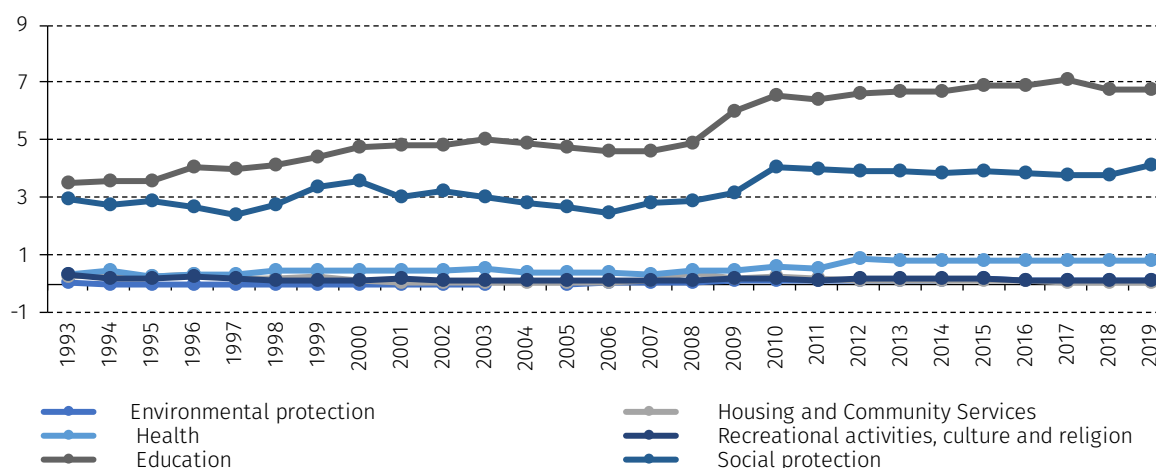
Environmental protection
Health
Education

Housing and Community Services
Recreational activities, culture and religion
Social protection

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

The overall data approximation in Mexico reports that public social spending as a percentage of GDP does not exceed 4% for any function. However, spending on health and housing and community services in Mexico in the 2003-2017 period, when the National Commission for Social Protection in Health ("Seguro Popular") (2004-2019) and the Progresa-Oportunidades-Prospera programme (2002-2018) were in force —characterized by progressive advances in coverage to millions of households, type of locality (from rural to semi-urban and from these to urban) and territorial—[22] is on average higher than that observed in Argentina and Costa Rica (see figure V.36). Like Costa Rica and Mexico and unlike Argentina, Panama prioritizes public social spending on education over other government functions. It can be seen, as in Mexico, that public social spending as a percentage of GDP is at most 4% during any period for any government function (see figure V.37).

Figure V.36
Mexico: public social spending, by function of government, 1999-2019
(Percentages of GDP)
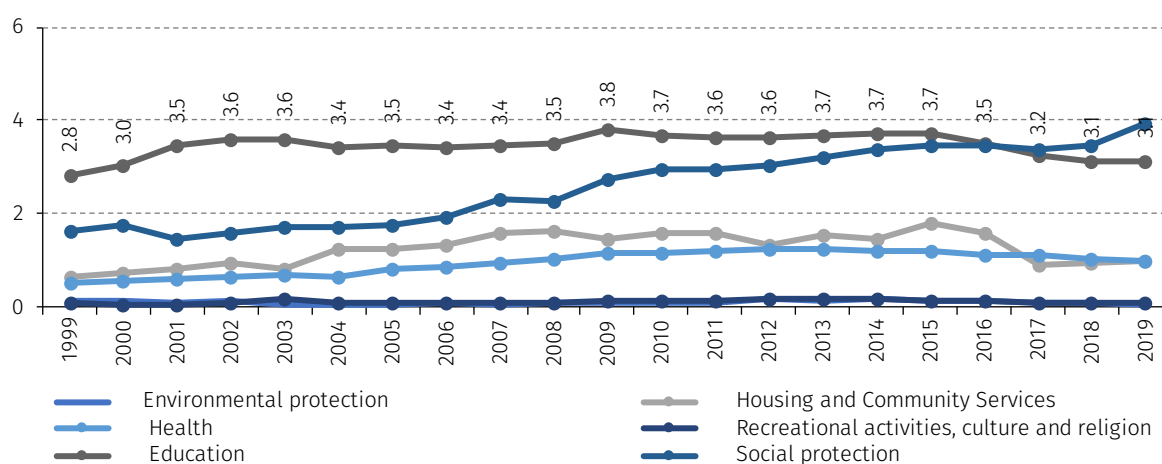
Environmental protection
Health
Education

Housing and Community Services
Recreational activities, culture and religion
Social protection

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

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[22]   In 1997, six states in the centre and south of the country had the highest household coverage; in 2017, the programme covered households in all states in the national territory.

Figure V.37
Panama: public social spending, by function of government, 2000-2017
(Percentages of GDP)
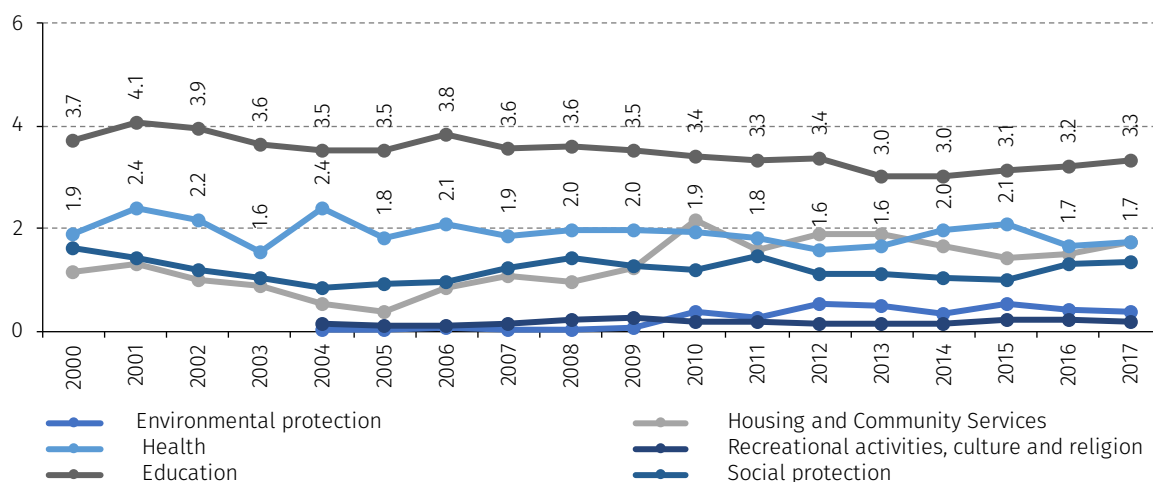
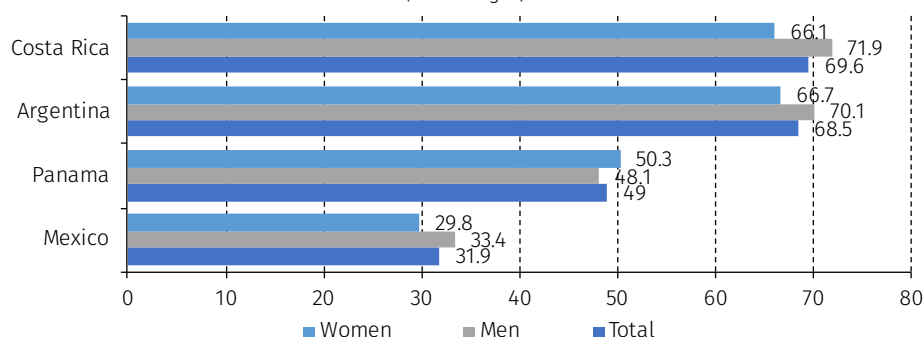Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

7. Educational gaps

a) Education spending

The negative behaviour of economic growth rates during the 1980s had repercussions in the 1990s that reduced public spending on education in some countries. While Costa Rica managed to control the drop in spending and maintain a growth trend with ups and downs until 2019, other countries, such as Argentina, Mexico and Panama, experienced more intense fluctuations in their spending on education over the following decades. Although Mexico equalled Costa Rica's spending at the beginning of the 2000-2010 decade, both Mexico and Argentina experienced a reduction in public spending on education during the second half of the 2010s. Panama experienced a downward trend in education spending, especially since 2001 (see figure V.38).

Figure V.38
Argentina, Costa Rica, Mexico and Panama: public spending on education, 1980-2019
(Percentages of GDP)
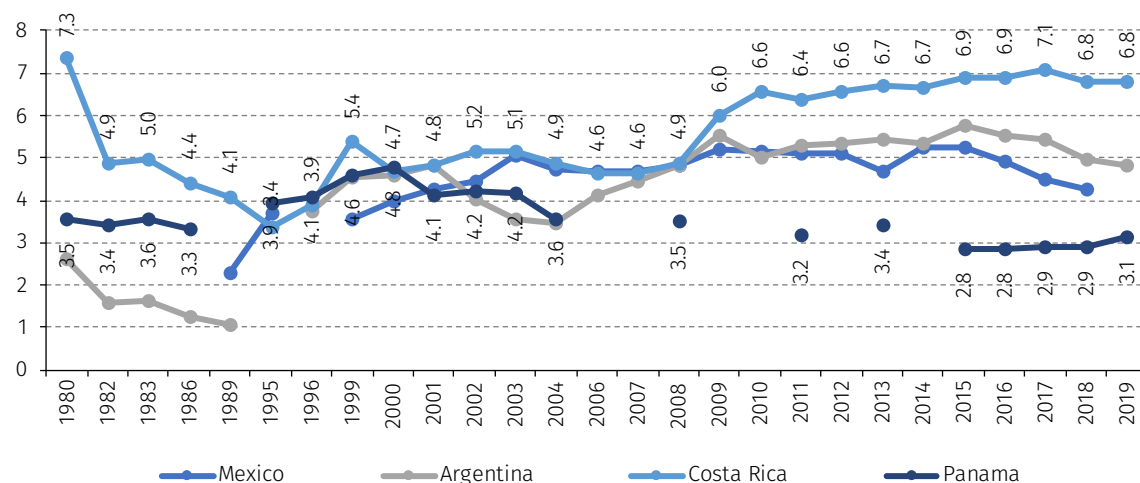
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

As seen below, the increases in public spending on education in the 1990s and during the second half of the 2000s did not translate equally into improvements in enrolment, school attendance and reduction in inequality in access to schools across countries according to socioeconomic origin.

b)   Enrolment gaps at the pre-primary level

The countries' gross enrolment rate trends at the pre-primary level show that Panama had the lowest (48.8%) and Mexico had the highest (73.9%) in 2000. From 2002 to 2008, pre-primary enrolment in Mexico grew faster than in the other countries, reaching universalization between 2008 and 2012. However, a decline in enrolment in Mexico began in 2013 and stabilized at around 70% in 2018.[23] This was very similar to the numbers in Argentina, which was progressing slowly. Costa Rica was approaching universal coverage in 2018. Only Panama made no progress, covering about 60% of its target population with ups and downs in 2018 (see figure V.39).

Figure V.39
Argentina, Costa Rica, Mexico and Panama: gross enrolment rate at the pre-primary level, 2000-2019
(Percentages)
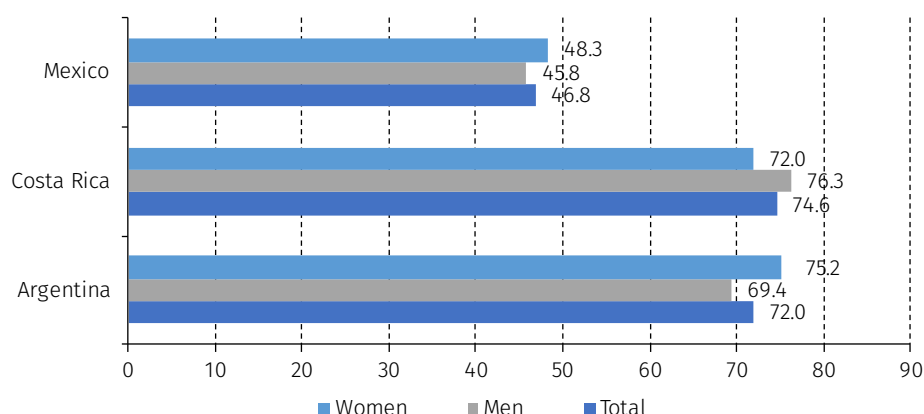

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

c)   Enrolment gaps at the higher education level

The gross enrolment rate for Mexico shows levels that have remained below those of the other countries over the past 20 years. Enrolment in Mexico is growing but did not exceed 50% by the end of the period (see figure V.40). When distinguishing by sex, Mexico is the country where gender parity in the gross enrolment rate at the higher level of education is met with the most intensity in the long term, unlike the other three countries, where the difference favours women (see figure V.41).

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[23]   The unforeseen need for resources (material, human, infrastructure and supplies) due to the increase in the enrolment of children aged three to five led the Union Congress to suspend the compulsory nature of third grade planned for the 2008-2009 school year, which had an impact on the decline in pre-primary enrolment in subsequent cycles.

Figure V.40
Argentina, Costa Rica, Mexico and Panama: gross enrolment rate at the higher level (tertiary), 2000-2019
(Percentages)
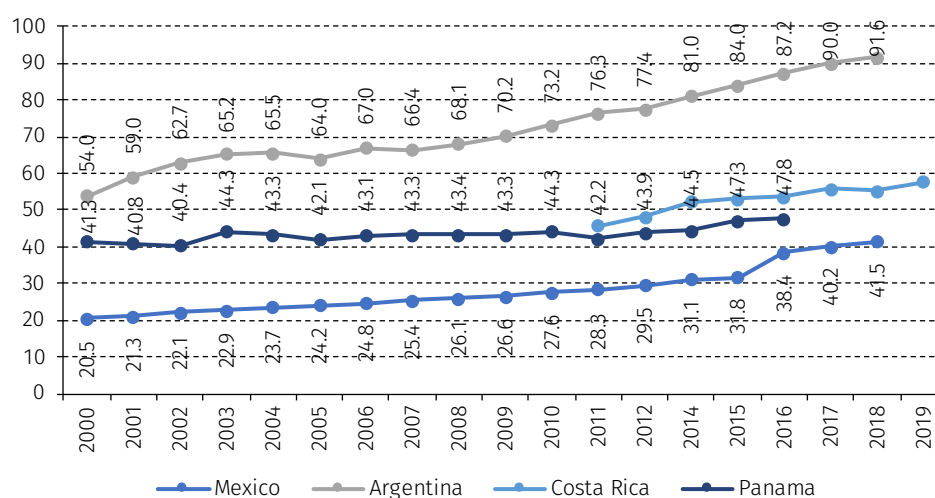
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

Figure V.41
Argentina, Costa Rica, Mexico and Panama: difference in the gross enrolment rate at the higher level (tertiary) between men and women, 2000-2019
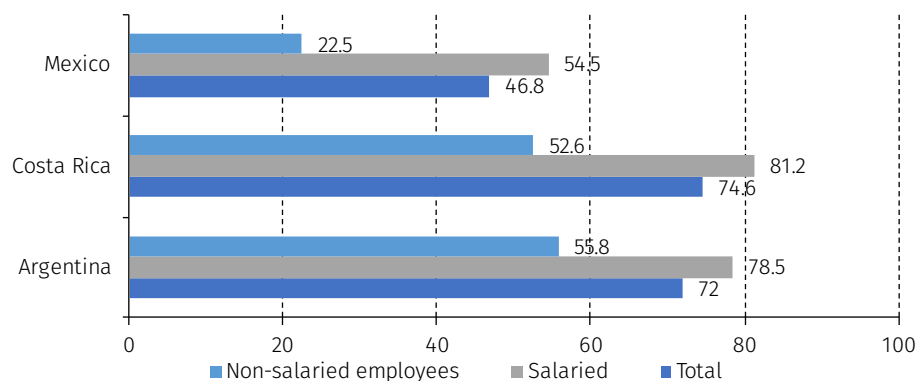*(Percentages points)*
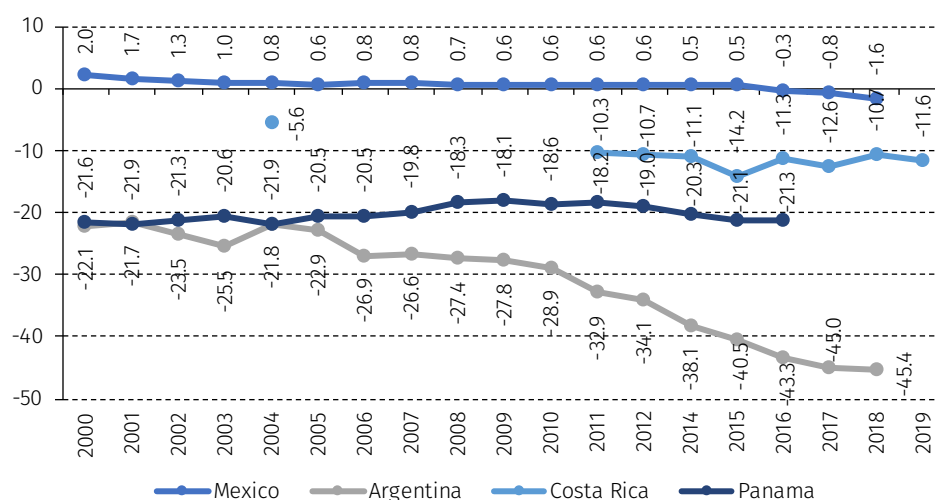
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

d) Educational gaps by age and socioeconomic origin

Taken as a whole, the population aged 7 to 24 had lower levels of school attendance in Mexico. The remaining countries had narrower gaps during the analysed period and tended to grow in the second decade (2010–2019) (figure V.42). In this same age group and for the same period, but considering the population in the lowest income quintile per household member (quintile 1), the pattern of horizontal gaps is very similar to that observed for the global population aged 7 to 24.

Figure V.42
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: school attendance in the population aged 7 to 24, 2000-2019
(Percentages)
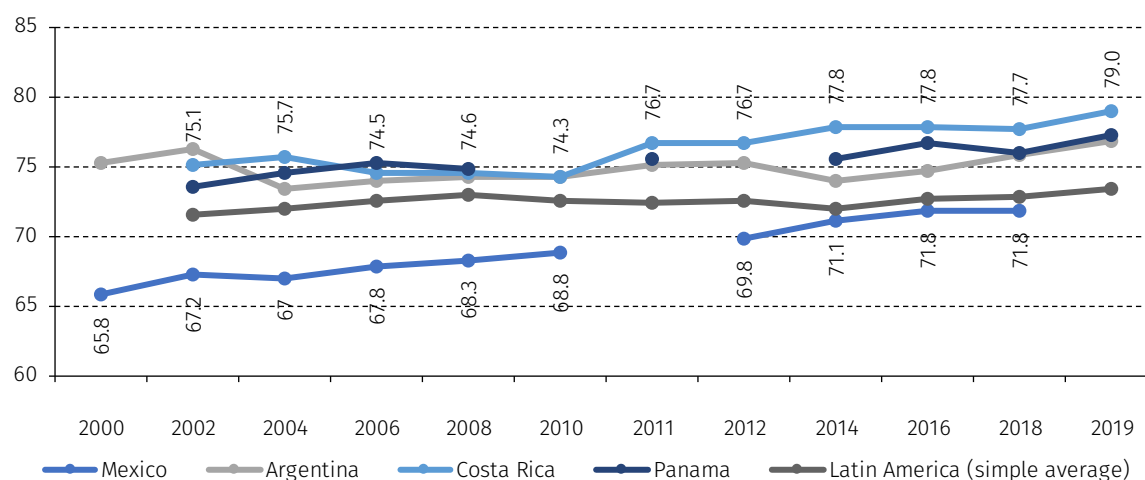
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

Figure V.43
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: school attendance in the population aged 7 to 24, in quintile 1 household income per person, 2000-2019
*(Percentages)*
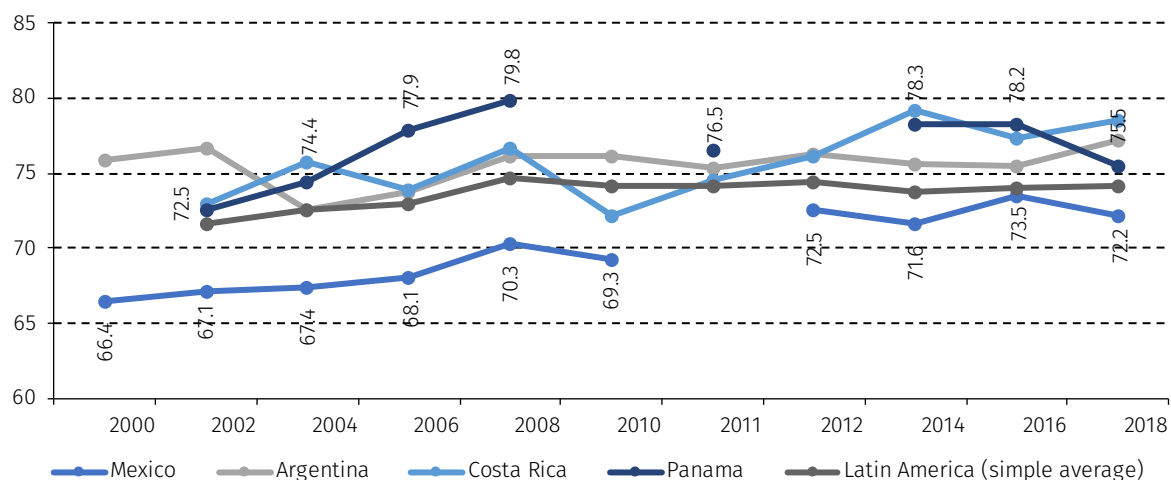
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

At the other end, school attendance by the population aged 7 to 24 in the highest quintile of economic household income (quintile 5) reduced the gap between Mexico, Argentina, Panama and the Latin American average for the period; Costa Rica's is expanded compared to this group (see figure V.44). Considering school attendance in the population aged 13 to 19 corresponding to secondary and upper secondary levels, figure V.45 shows the fastest reduction in the gap between quintiles in Mexico, but without overcoming the narrowing that characterizes the other countries.

Figure V.44
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: school attendance in the population aged 7 to 24, in quintile 5 household income per person, 2000-2019
(Percentages)
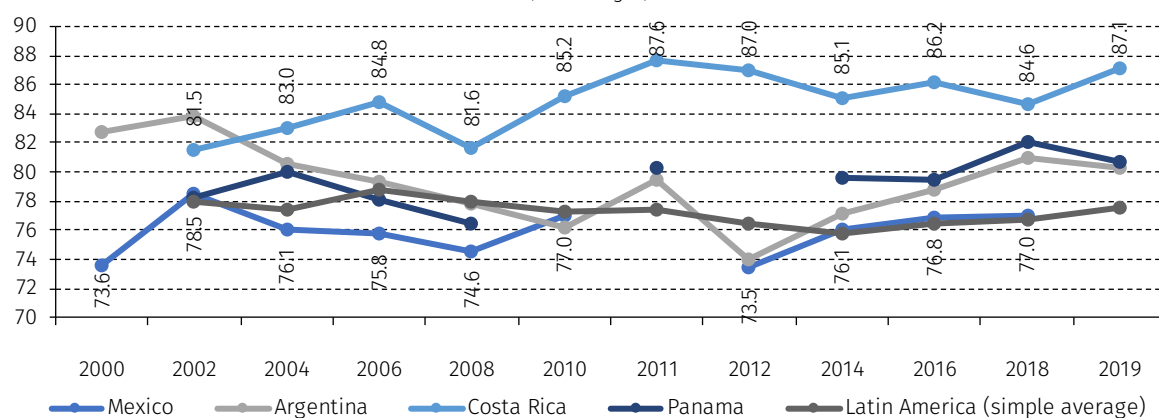
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

Figure V.45
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: difference in school attendance in the population aged 13 to 19 between quintiles 5 and 1 of household income per person, 2000-2019
(Percentages)
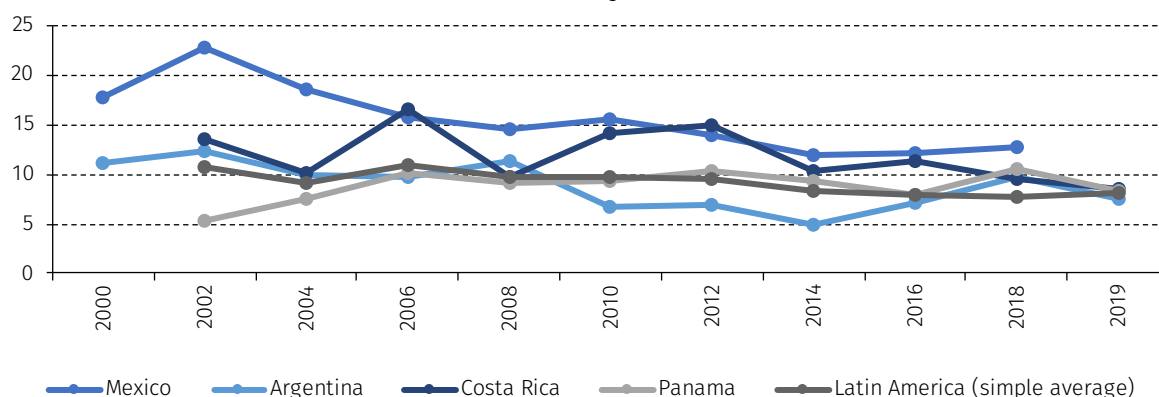
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

Figure V.46 shows an X-ray of the educational stratification of 2019 that shows a typical pattern among the countries defined by the strong influence held by inequality in the distribution of economic resources among households of origin —in this case, using the proxy of economic income on school attendance opportunities at a higher education level. The gap between quintiles was wider in all the countries compared to that observed for the same quintiles in the population aged 13 to 19, indicating a worsening of inequality in opportunities at the university tertiary education level. Mexico had higher school attendance than the regional average, while the other countries exceeded it in each quintile.[24] Regarding educational achievement over time, when the population aged 15 and over with zero to five years of education is considered (low, very low and no level of education), Mexico stands out throughout the period for achieving lower levels than the regional average, but higher than the other countries.

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[24]   Except for Panama in quintile 5.

Figure V.46
Latin America (simple average), Argentina, Costa Rica, Mexico and Panama: school attendance in the population aged
20 to 24, by household income per person quintile, 2019
(Percentages)
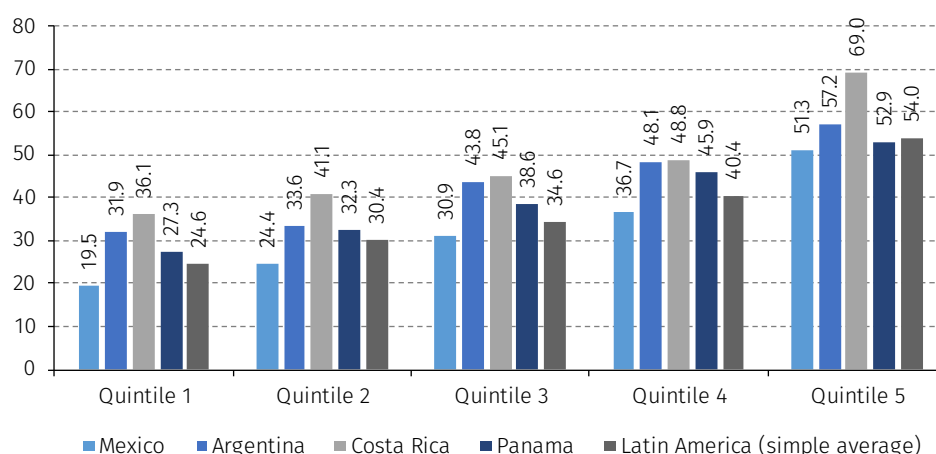
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022
[online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and
from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

Figure IV.47
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: urban population aged 15 and over,
with zero to five years of education, 2000-2019
(Percentages)
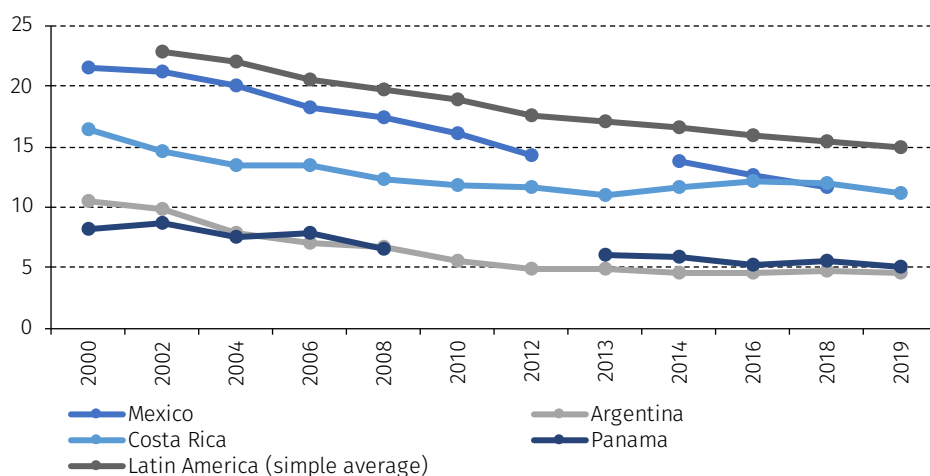
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022
[online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and
from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

Although Mexico shows an increasing trend in the time series analysis of the population aged 15
and over with 13 or more years of education, it is below the regional average and that of the rest of the
countries. The trend observed in Costa Rica is very similar to Mexico's. Although Costa Rica has invested
more in education than other countries, the inequalities formed by the distribution structures of
enrolment, attendance and achievement opportunities mean that disparities persist. In comparison,
Panama has had less public spending on education, but its percentage of the population with 13 or more
years of education was higher in the 2000-2019 period.

Figure V.48
Latin America (simple average); Argentina, Costa Rica, Mexico and Panama: urban population aged 15 and over, with 13 years of education and over, 2000–2019
(Percentages)
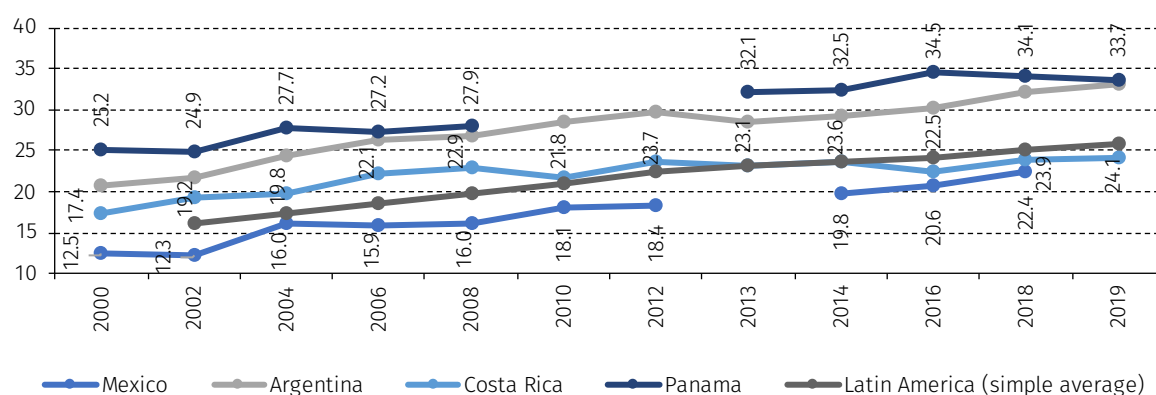
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT, 2022 [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.
Note: From 2000 to 2002, October and 2004 to 2018, fourth quarter as a reference in Argentina; comparable series up to 2008 and from 2010 in Costa Rica; 2000 to 2008, August and 2014 to 2018, March as the reference period in Panama.

8. Poverty gaps and extreme poverty

a) Poverty and extreme poverty in Argentina, Costa Rica, Mexico and Panama between 2014 and 2019

Considering the four countries being compared in this report, Costa Rica, Mexico and Panama (where the total poverty rate fell between 2014 and 2019) contrast with Argentina, where this rate grew. On the other hand, between 2014 and 2019, in percentage points and according to ECLAC data, extreme poverty increased by 2.3 pp in Argentina. However, it fell by 1 pp in Costa Rica, 3.7 pp in Mexico and 5.1 pp in Panama (see figure V.49).

Figure V.49
Argentina, Costa Rica, Mexico[a] and Panama: ECLAC estimates of the total poverty rate,[b] 2014-2019
(Percentages)
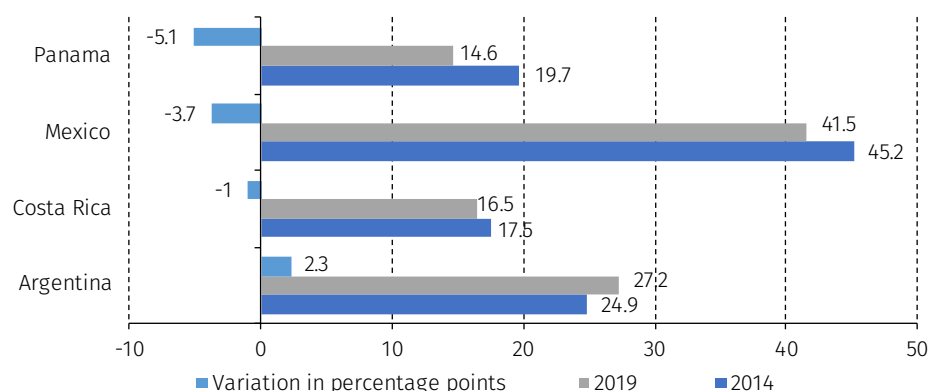
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, table I.2, p. 55 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020, and ECLAC, *Economic Survey of Latin America and the Caribbean 2018. Evolution of investment in Latin America and the Caribbean: stylized facts, determinants and policy challenges*, 2018 [online] https://www.cepal.org/en/publications/43965-economic-survey-latin-america-and-caribbean-2018-evolution-investment-latin.
[a] The 2019 data for Mexico corresponds to 2018.
[b] See Economic Commission for Latin America and the Caribbean (ECLAC), *Medición de la pobreza por ingresos* (2018b) for details on the approach used by ECLAC to estimate poverty.

Figure V.50
**Argentina, Costa Rica, Mexico and Panama: ECLAC estimates of the extreme poverty rate, 2014-2019**
(Percentages)
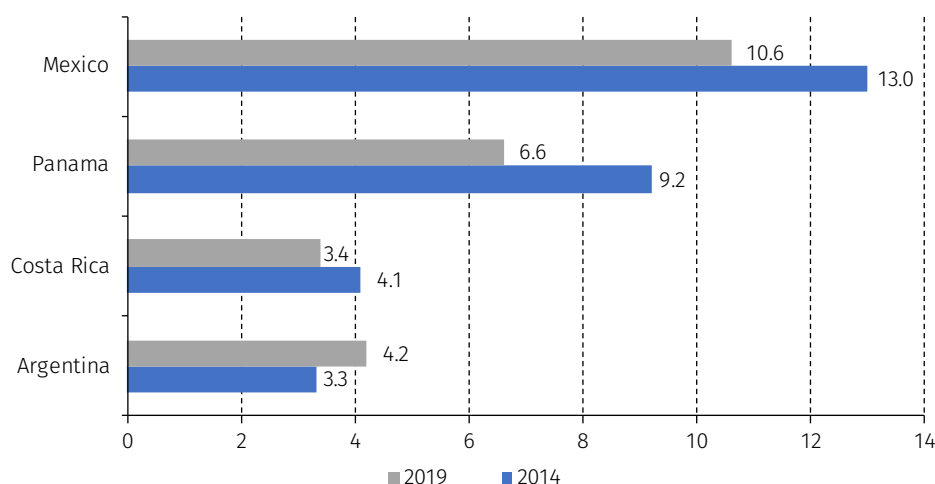
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure I.1 A., p. 51, [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

According to ECLAC (2021a, see figure V.51), the increase in labour income reduced poverty and extreme poverty in Mexico and Panama. In Costa Rica, income from public and private transfers was predominant. In contrast, in Argentina, the increase in both forms of poverty was fundamentally associated with reduced labour income. The increase in per capita income from wages was the fundamental factor in reducing poverty due to labour incomes. This same factor was crucial to the rise in poverty in Argentina, where this type of income fell. Another critical factor in the reduced poverty and extreme poverty in Costa Rica and Panama was the per capita income from transfers among lower-income households.

Figure V.51
Argentina, Costa Rica, Mexico and Panama: annual change in per capita income among low-income households, by the source of income, 2014 to 2019
(Percentages)

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure 1.6, p. 59 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

Figure V.52
Argentina, Costa Rica, Mexico and Panama: annual change in per capita income from wages and income from self-employment among low-income households, by source of income, 2014-2019
(Percentages)
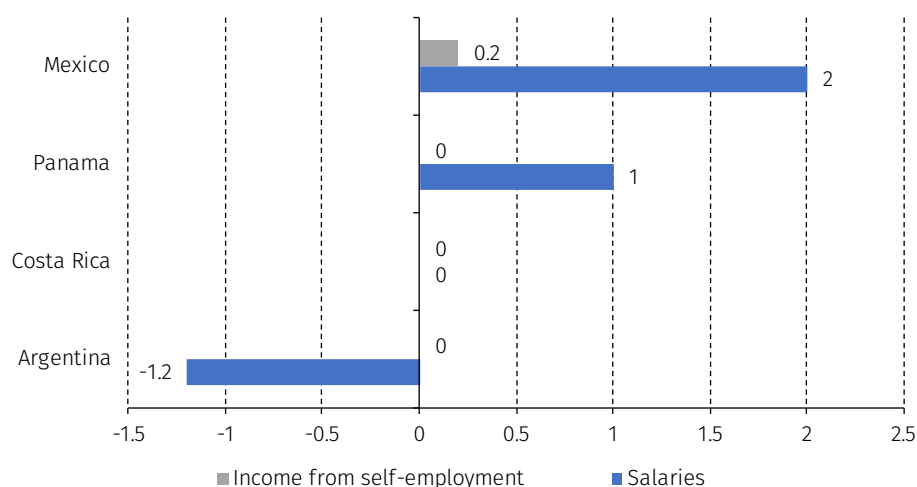
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure 1.7, p. 60 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

Figure V.53
Argentina, Costa Rica, Mexico and Panama: annual change in per capita income from transfers among low-income households, by the source of income, 2014-2019
(Percentages)
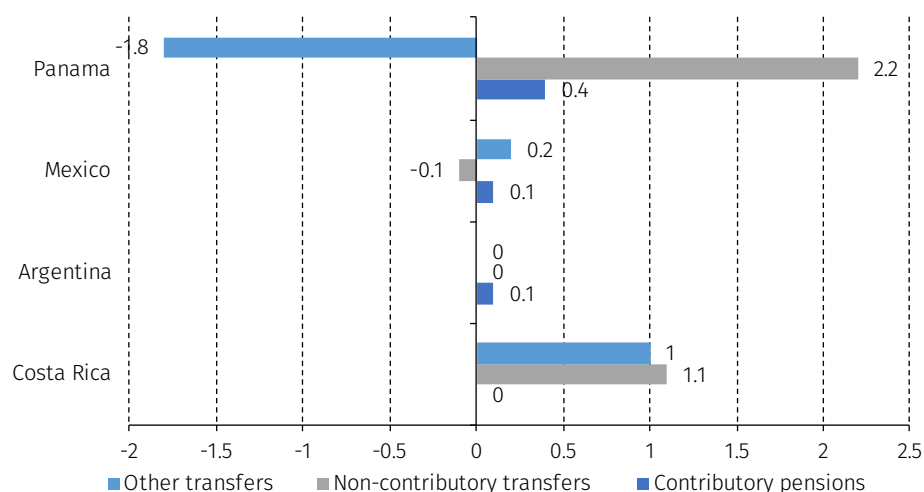
Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure 1.7, p. 60 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

The COVID-19 health crisis caused the poverty rates in all four countries to rebound; the same occurred for extreme poverty except in Panama. According to consolidated figures taken from CEPALSTAT, poverty increased by 7.0 pp in Argentina (2019-2020 in urban areas), 2.9 pp in Costa Rica (2019-2020), 1.9 pp in Mexico (2018-2020) and 1.0 pp in Panama. For its part, extreme poverty increased by 1.9 pp in Argentina (2019-2020 in urban areas), 1.5 pp in Mexico (2018-2020) and 2.9 pp in Costa Rica (2019-2020); it fell by 0.9 pp in Panama.

9.   Care gaps

As ECLAC (2021) points out, historically and at present, in Latin America, the social organization of care, which includes families, the State, the market and community organizations, is one of the great structural nodes of inequality, which prevents the full exercise of women's rights and limits their autonomy.[25] According to UNDP (2019), the time spent on domestic tasks and unpaid care work by women aged 15 and older is very high in the four analysed countries. This workload is the most intense in Mexico and moderate in Panama between 2008 and 2018.

Figure V.54
Argentina, Costa Rica, Mexico and Panama: time spent on domestic tasks and unpaid care work, women aged 15 and older, 2008–2018
(Percentages of 24 hours a day)
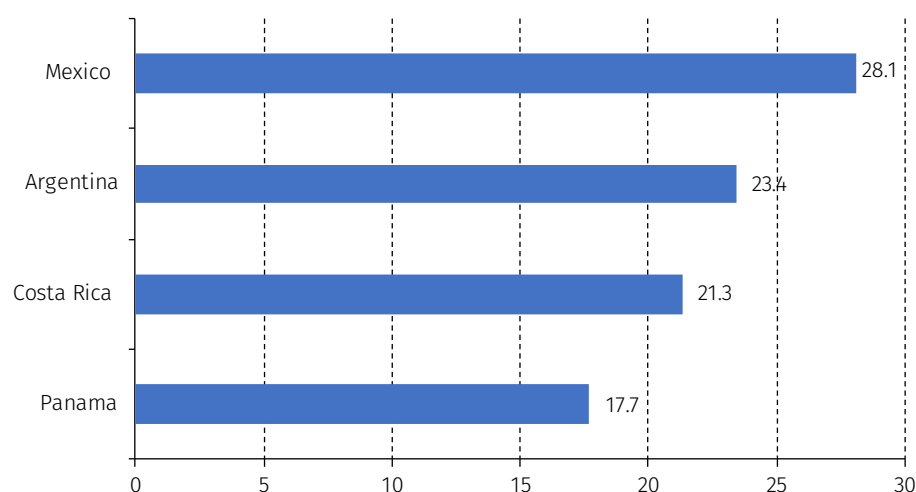
Source: Prepared by the author, on the basis of United Nations Development Programme (UNDP), "Brecha entre los géneros a lo largo del ciclo vital, cuadro de indicadores 2", 2019, pp. 376-377 [online] http://hdr.undp.org/sites/default/files/hdr_2019_es.pdf.

The importance of unpaid household work should not be underestimated. According to ECLAC, the calculations of the economic recovery of this type of work ranged between 15.9% and 25.3% of GDP between 2013 and 2018. Figure V.55 shows these figures for Argentina, Costa Rica and Mexico. The gap between Costa Rica-Mexico and Argentina stands out, indicating greater gender inequality against women. The value of unpaid work in households is almost 10 pp more in Costa Rica and 7.6 pp more in Mexico than in Argentina.

In Latin America, a substantial percentage of women in households with children under 15 years old stop participating in the labour market to meet family responsibilities; this occurs to a much lesser extent in homes with no children of those ages. Costa Rica illustrates the prevalence of this trend among the countries analysed in this report.

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[25]   The care economy refers to unpaid work done in households and domestic and care work done in the labour market under unprotected conditions and at low wages (ECLAC, 2021, p. 200).

Figure V.55
Argentina, Costa Rica and Mexico: the economic value of unpaid household work, 2013-2018
(Percentages of GDP)
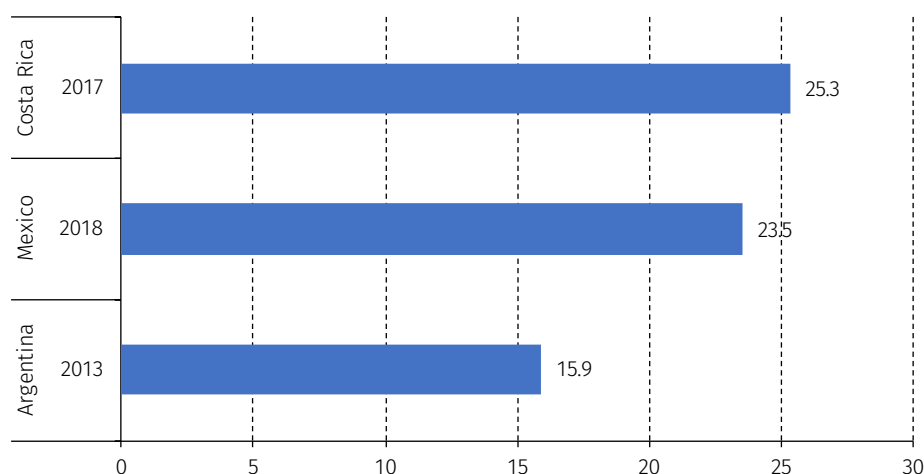
Figure V.56
Costa Rica: women aged 20 to 59 who were out of the labour market due to family reasons in 2019, according to the presence of children under 15 years old in the household
(Percentages)
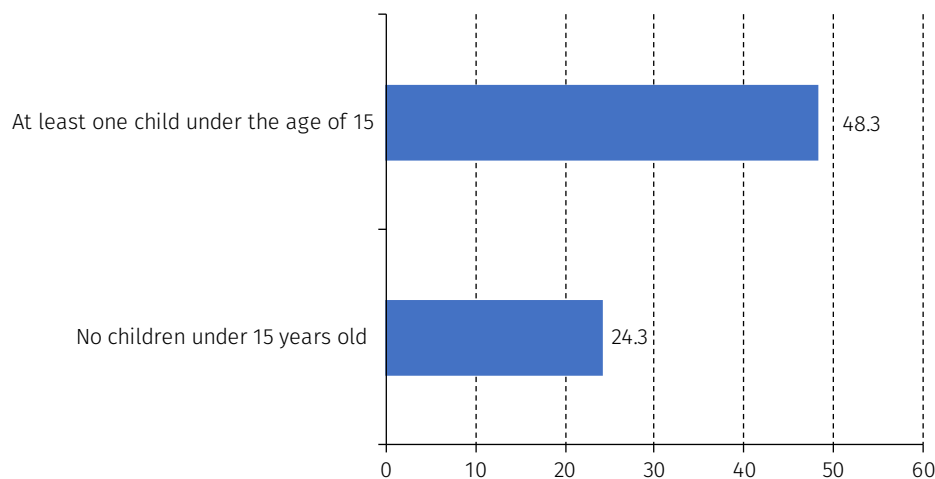
On the other hand, the gender pay gap increases in households with children between 0 and 15. Mexico's situation in 2018 is an example of this: the wage gap when a family had at least one child under 15 years old fluctuates between 22.8 pp and 21.1 pp but falls to 6.7 pp when no children under 15 were in the household. Figure V.58 shows the distribution, by income quintiles, of unpaid care work time among women aged 15 and older in households with children aged 5 to 12 in Costa Rica and Mexico.

Figure V.57
Mexico: income of urban wage earners, aged 20 to 59, who work 35 hours or more per week, compared to the wage of men with the same characteristics, by the presence of girls and boys, 2018
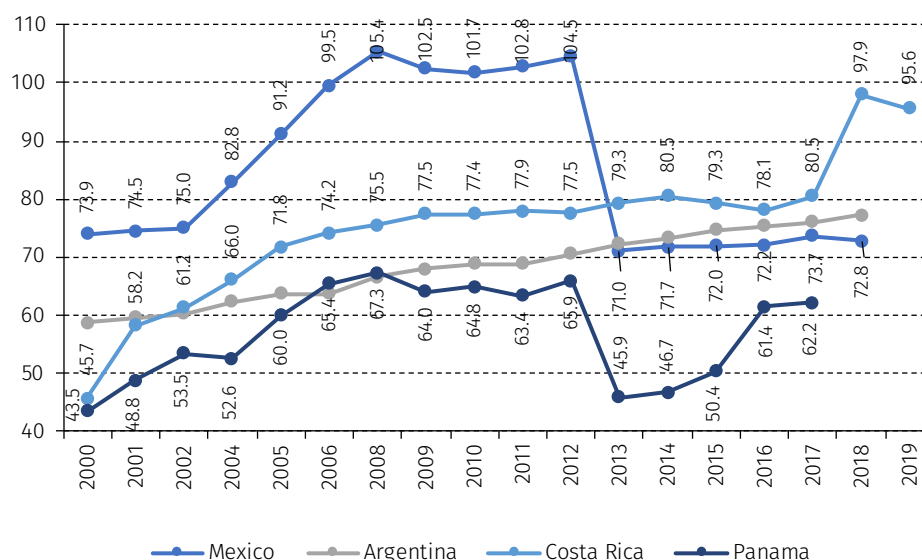*(Percentages)*
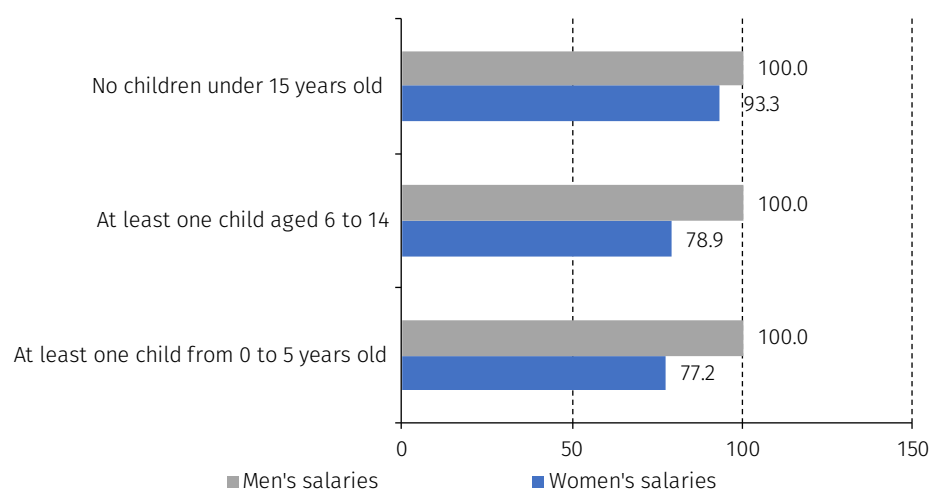
■ Men's salaries   ■ Women's salaries

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure V.3, p. 201 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

Figure V.58
Costa Rica[a] and Mexico:[b] unpaid care work time of women aged 15 and older in households with children aged 5 to 12, 2014–2017
(Hours per week)
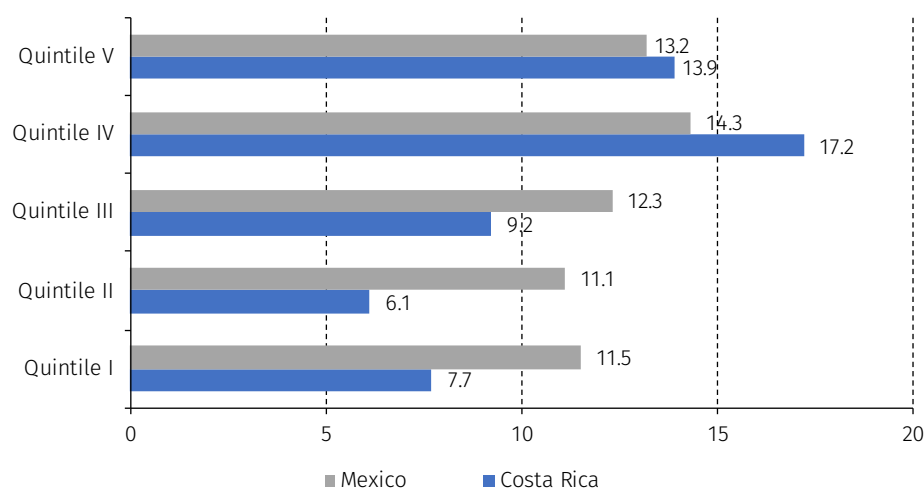
■ Mexico   ■ Costa Rica

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Social Panorama of Latin America, 2020,* 2021b, figure V.5, p. 207 [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.
[a] Data for Costa Rica, 2017
[b] Data for Mexico, 2014.

As can be seen in the graph, the time spent on unpaid care work in Mexico is distributed more evenly, with only a difference of 1.7 hours between the first and fifth quintiles. In Costa Rica, the difference is 6.2 hours. This indicates that the burden of care in Mexico is very intense in all income quintiles, whereas in Costa Rica, it mainly affects the first three quintiles. The gap between Mexico and Costa Rica, measured in percentage points, gradually increases from quintile 2 (2.9 pp) to quintile 5 (3.8 pp), always indicating a heavier burden for Mexican women.

B.   Conclusions and recommendations

This report ends with conclusions and recommendations focused on the Mexican case. They are very general and seek to be strategic because, as the report has shown, horizontal welfare gaps between countries are multiple and highly complex. The intent is to highlight some routes that can serve as axes to transform Mexico's economic and social policies from a perspective that favours social well-being and not just the growth of a few highly exporting sectors of the economy.

The diagnosis here reveals negative gaps between Mexico and Argentina, Costa Rica and Panama. Three crucial ones are the Mexican economy's inability to achieve sustained growth, its health system's weakness, and, in general, its social policy's shortcomings in handling critical situations and Mexican employment, which is burdened not only by the highest levels of informality compared to the other three countries considered in this report but also by its constant growth and significant job insecurity.[26]

In this sense, a fundamental issue is to improve the quality of employment in terms of the "decent employment" proposed by ILO to improve family income and access to benefits and social protection. Let us remember that this perspective implies opportunities to access productive employment that generates a fair income, security in the workplace, and social protection for workers and their families and that offers perspectives for personal development and social integration, democracy in the workplace, and equal opportunities and treatment for men and women (ILO, 2022). Indeed, a significant part of the gaps detected is deeply linked to the poor quality of employment, such as the gaps in access to third-level health and social security. This calls for reconsidering employment regulation as a central issue for reducing welfare gaps.

A severe erosion of paid work as a mechanism for social integration was also observed. This is not fortuitous but is instead the result of a regressive wage policy, which began in the mid-1970s and ended at the end of the 2010s and which decidedly influenced the reduction of levels of affiliation to social security and health systems, the lowest among the countries compared in this report.[27] The employment and social protection gaps also impact gaps in poverty, extreme poverty and gender, and gaps between employees with and without salaries, between the urban and rural populations, and between the non-indigenous and the indigenous population. Also, they are more acute in Mexico than in the other countries included in this report.

It should be noted that women also face the constant reproduction of the familial and patriarchal care model, which relies on unpaid female work in households. Mexican women invest more time in domestic and care tasks than women in the other three countries. This is linked to labour inequalities and lower incomes for women in Mexico with paid jobs. These situations are not counteracted properly by any policy or public institution.

In recent decades, significant advances have been made in establishing the educational rights of young children (which had an impact on a substantial increase in pre-primary enrolment) and in implementing a gender approach that managed to reduce the gaps between men and women in this area. However, the progress that has yet to be made in other areas is expressed by profound educational gaps by age, particularly in the population aged 20 to 24 and by socioeconomic origin.

The educational, health and poverty gaps are followed by taxation gaps created by low levels of tax revenue, which in Mexico and Panama are the lowest of the compared countries and impact spending levels as the lowest percentage of GDP in the analysed group. In the case of Mexico, this hampers the possibility of formulating more ambitious social policies to reduce social gaps and erodes the capacity to face critical situations, such as the one being felt now, through more effective countercyclical policies.[28]

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[26]   It should be noted that although labour informality affects both sexes in Mexico, it affects women to a greater extent.
[27]   This policy has favoured the reproduction and deepening of the stratification that characterizes these systems, crowned by large niches of social exclusion.
[28]   In addition, in Mexico, there is a profound political inability to obtain property tax revenues and a repeated inability to carry out progressive tax reform.

The set of gaps under analysis shows that Mexico has the highest poverty and extreme poverty levels of the studied countries. It faces social cohesion problems derived from uncertainty regarding the future and feelings of injustice that especially affect the most excluded groups, such as Indigenous Peoples, women, youth, adolescents, children, unqualified workers, extended families and people with low levels of education, and even middle-income groups who face a constant risk of downward mobility in critical situations.

Another important conclusion is that, although cash transfer policies have made significant progress, especially a modest reduction in extreme poverty and greater possibilities for the poor population to access health services, a change of course in social policy is essential because what has been achieved so far is not enough, and it is not achieving structural transformations. Access to labour income and public and private cash transfers do not resolve the lack of opportunities derived from low or zero levels of public and private investment in certain territories. Public investment can help detonate good-quality employment and income opportunities and open the door to effective access to social rights, particularly in health and social security.

The above raises the need to change the general paradigm of social policy from an approach that revolves around cash transfers to a rights-based approach with a universalist perspective. This paradigm shift cannot be implemented in practical terms without proposing the construction of a true welfare state as a central issue on the public agenda. Such a state should be capable of gradually building a more homogeneous social citizenship, not just implementing social inclusion mechanisms for the poorest, conferring them an inferior status institutionalized by social policy. The construction of social citizenship is possible when social policy (with capital letters) aims to reduce social gaps, reduce social inequalities and eliminate poverty and extreme poverty. Without this symbolic horizon, there will be no real progress in the social situation of most Mexicans because what is not sought can be achieved.

Finally, in strategic terms, a central objective of social policy should not just be to expand the coverage of social services. It should also narrow the quality gaps in access that characterize them. To this end, in addition to universalist reforms to the Mexican welfare regime, fiscal reform is necessary to have the resources needed to make social investment a public priority in the immediate future.

Bibliography

Aguirre, J. and R. Lo Vuolo (2013), "Variedades de capitalismo: una aproximación al estudio comparado del capitalismo y sus aplicaciones para América Latina", *Documento de Trabajo CIEPP*, No. 85 [online] http://www.ciepp.org.ar/images/ciepp/docstrabajo/doc%2085.pdf.

Alarco, G. (2016), "Distribución factorial del ingreso y regímenes de crecimiento en América Latina, 1950-2012", *Revista Internacional del Trabajo*, vol. 135, No. 1 [online] http://trabajodigno.pe/wpcontent/uploads/2016/02/ALARCO-Distribuci%C3%B3n-del-Ingreso-OIT-2016.pdf.

Barba, C. (2023), "Los regímenes de bienestar en América Latina: estructura de riesgos sociales y sistemas de protección social. Historia de un desencuentro", in press.

_____(2021), "El régimen de bienestar mexicano. Inercias, transformaciones y desafíos", *serie Estudios y Perspectivas*, No. 191 (LC/TS.2021/70-LC/MEX/TS.2021/12), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/bitstream/handle/11362/46960/1/S2100333_es.pdf.

_____(2020), "La cuestión social en América Latina en los regímenes de bienestar del siglo XXI: reformas universalistas e inercias y contraofensivas neoliberales", *La cuestión social en el siglo XXI*, Barba, C., G. Ordoñez and Y. Silva (coords.), Mexico City, Siglo XXI Editores/Colegio de la Frontera Norte (COLEF).

_____(2019a), "Welfare regimes in Latin America: thirty years of social reforms and conflicting paradigms", *Welfare and Social Protection in Contemporary Latin America*, G. Cruz-Martínez (ed.), New York, Routledge [online] https://www.worldcat.org/title/welfare-and-social-protection-in-contemporarylatin-america/oclc/1151060399.

_____(2019b), "Desigualdad y regímenes de bienestar (RB) en América Latina (AL): una mirada teórica", *Las grietas del neoliberalismo: dimensiones de la desigualdad contemporánea en México*, M. C. Bayón, (coord.), Mexico City, National Autonomous University of Mexico (UNAM)/Instituto de Investigaciones Sociales [online] http://ru.iis.sociales.unam.mx/jspui/handle/IIS/5687.

_____(2018), "Liberalismo y universalismo en tensión: 25 años de reformas sociales en los regímenes de bienestar de América Latina", *Políticas sociales en América Latina en los inicios del siglo XXI: innovaciones, inercias y retrocesos*, C. Midaglia, G. Ordoñez and E. Valencia (coords.), Tijuana, Consejo Latinoamericano de Ciencias Sociales (CLACSO)/Colegio de la Frontera Norte (COLEF).

_____(2007), *¿Reducir la pobreza o construir ciudadanía social para todos? América Latina: regímenes de bienestar en transición al iniciar el siglo XXI*, Guadalajara, Universidad de Guadalajara [online] https://www.researchgate.net/publication/303484318_Reducir_la_pobreza_o_construir_ciudadania_social_para_todos_America_Latina_Regimenes_de_bienestar_en_transicion_al_iniciar_el_Siglo_XXI.

Bizberg, I. (2019), *Diversity of Capitalisms in Latin America*, Cham, Switzerland, Palgrave Macmillan [online] https://robertboyer.org/download/2019_Boyer_-Prologue_DiversityOfCapitalismsInLatinA.pdf.

Bizberg, I. and B. Théret (2012), "Las coaliciones sociopolíticas y las trayectorias de los capitalismos latinoamericanos", *Variedades de capitalismo en América Latina: los casos de México, Brasil, Argentina y Chile*, Mexico City, El Colegio de México.

CIAT (Centro Interamericano de Administraciones Tributarias) (2021), Base de datos de Recaudación BID-CIAT, 2021 [online database] https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/.

ECLAC (Economic Commission for Latin America and the Caribbean) (2021a), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es.

_____(2021b), *Social Panorama of Latin America, 2020* [online] https://www.cepal.org/en/publications/46688-social-panorama-latin-america-2020.

_____(2018a), *Economic Survey of Latin America and the Caribbean 2018. Evolution of investment in Latin America and the Caribbean: stylized facts, determinants and policy challenges* [online] https://www.cepal.org/en/publications/43965-economic-survey-latin-america-and-caribbean-2018-evolution-investment-latin.

_____(2018b), *Medición de la pobreza por ingresos: actualización metodológica y resultados: metodologías de la CEPAL*, No. 2 (LC/PUB.2018/22-P) [online] https://repositorio.cepal.org/bitstream/handle/11362/44314/1/S1800852_es.pdf.

_____(2016a), *El enfoque de brechas estructurales: análisis del caso de Costa Rica*, Santiago [online] https://repositorio.cepal.org/bitstream/handle/11362/40805/1/S1600998_es.pdf.

_____(2016b), *La matriz de la desigualdad en América Latina*, Santiago [online] https://www.cepal.org/sites/default/files/events/files/matriz_de_la_desigualdad.pdf.

_____(2014), *Los Pueblos Indígenas de América Latina: avances en el último decenio y retos pendientes para la garantía de sus derechos*, Santiago [online] https://www.cepal.org/es/publicaciones/37050-pueblosindigenas-america-latina-avances-ultimo-decenio-retos-pendientes-la.

_____(2012), *Los países de renta media: un nuevo enfoque basado en brechas estructurales* (LC/G.2532/REV.1), Santiago [online] https://www.cepal.org/es/publicaciones/13787-paises-renta-media-un-nuevo-enfoque-basado-brechas-estructurales.

Gaudin, Y. and R. Pareyón (2020), "Brechas estructurales en América Latina y el Caribe: una perspectiva conceptual-metodológica", *Project Documents* (LC/TS.2020/139-LC/MEX/TS.2020/36), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/bitstream/handle/11362/46435/1/S2000836_es.pdf.

Hall, P. A. and D. Soskice (2006), "Variedades de capitalismo: algunos aspectos fundamentales", *Desarrollo Económico*, vol. 45, No. 180 [online] https://www.jstor.org/stable/3655881?read-now=1&seq=16#page_scan_tab_contents.

ILO (Organización Internacional del Trabajo) (2022), *Impulsar la justicia social, promover el trabajo decente* [online] http://www.oit.org/global/topics/decent-work/lang--es/index.htm.

_____(1972), *Employment, Incomes and Inequality: A Strategy for Increasing Productive Employment in Kenya*, Geneva.

Piketty, T. (2014), *Capital in the Twenty-First Century*, Cambridge, Mass., The Belknap Press of Harvard University Press.

Pinto, A. (1965), "Concentración del progreso técnico y de sus frutos en el desarrollo", *El Trimestre Económico*, vol. 32, No. 4 [online] http://hdl.handle.net/11362/35062.

Puyana, A. (2019), "El neo-extractivismo en la economía latinoamericana. Efectos sobre la desigualdad y el crecimiento", *Políticas sociales en América Latina en los inicios del siglo XXI: innovaciones, inercias y retrocesos*, C. Midaglia, G. Ordoñez and E. Valencia (coords.), Tijuana, Consejo Latinoamericano de Ciencias Sociales (CLACSO)/El Colegio de la Frontera Norte (COLEF) [online] https://www.researchgate.net/publication/335477773_EL_NEO-EXTRACTIVISMO_EN_LA_ECONOMIA_LATINOAMERICANA_EFECTOS_SOBRE_LA_DESIGUALDAD_Y_EL_CRECIMIENTO.

Schneider, B. R. (2009), "Hierarchical Market Economies and Varieties of Capitalism in Latin America", *Journal of Latin America Studies*, vol. 41, No. 23 [online] https://www.jstor.org/stable/27744166.

Schneider, B. R. and S. Karcher (2010), "Complementarities and continuities in the political economy of labour markets in Latin America", *Socio-Economic Review*, vol. 8, No. 4 [online] https://dspace.mit.edu/handle/1721.1/70941.

Tokman, V. (1978), *Una exploración de la naturaleza de las interrelaciones entre los sectores informal y formal*, Santiago, Proyecto Regional de Educación para América Latina y el Caribe (PRELAC).

UNDP (United Nations Development Programme) (2019), *Informe sobre Desarrollo Humano 2019: más allá del ingreso, más allá de los promedios, más allá del presente: desigualdades de desarrollo humano en el siglo XXI* [online] https://www.un-ilibrary.org/content/books/9789210044981.

_____(2017), *La evolución de las remuneraciones laborales y la distribución del ingreso en Uruguay* [online] http://retosalsur.org/wp-content/uploads/2013/09/undp-uy-cdh10-2018.pdf.

United Nations (2015), Sustainable Development Goals [sitio web] https://www.un.org/sustainabledevelopment/.

World Bank (2021), World Bank countries and Lending Groups [online database] https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.

_____(2018), *Afrodescendientes en América Latina: hacia un marco de inclusión*, Washington, D.C. [online] https://openknowledge.worldbank.org/bitstream/handle/10986/30201/129298-7-8-2018-17-30-51-AfrodescendientesenLatinoamerica.pdf?sequence=5&isAllowed=y.

Chapter VI
Gaps in government spending on health and education in El Salvador, Guatemala, Honduras and Mexico[1]

Juan Alberto Fuentes Knight

Introduction

Government expenditures can and should contribute to increasing the coverage and quality of health and education services. However, the impact of spending is conditioned by a wide range of variables. These include not only the capacities of the State but also the socioeconomic standing of beneficiaries, their individual, family and community characteristics and the effect of other public policies. The system for delivering services is a factor too. This chapter uses a methodological approach that recognizes that progress in education and health is the result of structural and intermediate determinants. Structural determinants include State capacities, government expenditure and social stratification. Intermediate determinants encompass individuals, families, communities and the attention provided by the system.

Based on this conceptual framework, this chapter identifies inequality gaps, either between countries (horizontal) or between social groups or areas in each country (vertical). The countries under study are El Salvador, Guatemala, Honduras and Mexico, middle-income countries in Latin America that, despite differences in size and income levels, share characteristics such as the fragility of their tax revenues. The gaps have been estimated based on the results in education or health (targets of SDG 3 and 4) achieved by the countries or by different socioeconomic strata, areas or ethnic groups during a given period. This has been articulated with an analysis of public expenditure on education and health. For each country, the amount, composition and characteristics of public spending are examined to estimate its effects in the recent past. The analysis also gives an assessment of the fiscal gaps that arise from the need to cover the inequalities that still persist in the fields of education and health.

Besides the introduction, this chapter has four sections. The first provides the conceptual foundations that support the analysis. The section is based on the structural and intermediate determinants of education and health, including the capacity of the State and the orientation of public spending. The second section analyses spending and gaps in education for the four countries. In the third section, the same is done regarding health. Nutrition is also included because actions to reduce must become part of the global health strategy. The impact of the COVID-19 pandemic on health budgets is considered, as well as its effects on education. The final part presents the main conclusions.

A. Conceptual bases

1. The multidimensional determinants of structural gaps

To identify how much public spending is required by health and education, it is necessary to know its effects on coverage and quality. This justifies having a broad view of the causal factors of health and education, considering that government expenditure is just one of those factors. The most important

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[1] This chapter is a summary of an unpublished document by Juan A. Fuentes Knight and was prepared by Luis Felipe Carvalho Lopes, Officer of the Social Development Unit at the subregional headquarters of ECLAC in Mexico.

causal factors of health and health inequality are identified by the approach known as "social determinants of health", which has been synthesized by Solar (2010) and is applied in the Scandinavian countries (Diderichsen and others, 2012), New Zealand (Signal, 2008) and India (Hamal and others, 2020). If adapted, this same approach can be applied to education. The approach helps to identify the structural determinants of inequality, which generate or reinforce social stratification. It also helps to identify the intermediate determinants, which are the way in which structural determinants manifest themselves (see diagram VI.1).

Diagram VI.1
Multidimensional determinants of structural gaps

Structural determinants		Intermediate determinants	
Context Sociopolitical The State: Legislation Policies Governance	Location Socioeconomic Economic level Ethnicity Rural-urban area Gender Education Occupation	Individual context (Nutrition, age, behaviour) Community context (Social capital, family structure, networks) Health and education systems (Availability, access and quality of service)	Results
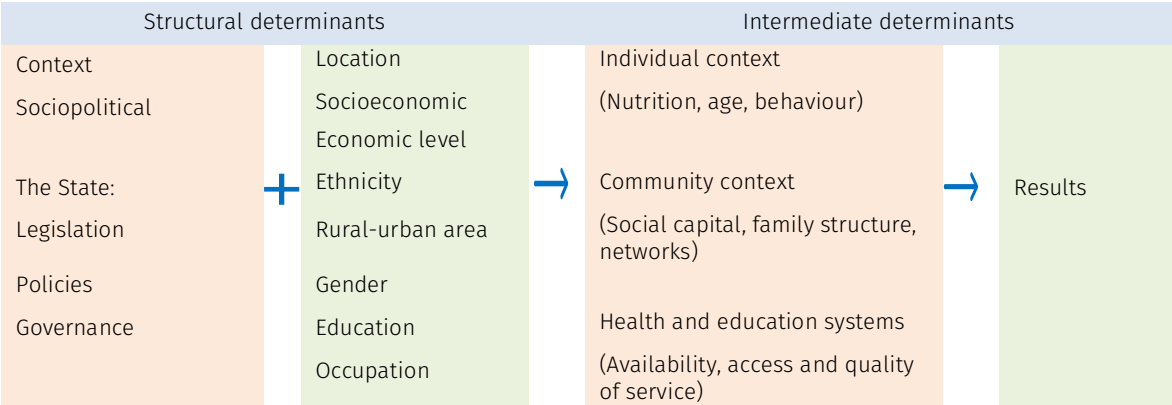
Source: Prepared by the author, on the basis of M. Hamal and others, "Social determinants of maternal health: a scoping review of factors influencing maternal mortality and maternal health service use in India", *Public Health Reviews*, vol. 41, No. 13, 2020 [online] https://publichealthreviews.biomedcentral.com/articles/10.1186/s40985-020-00125-6.

In the case of education, a production function has been frequently used. This function identifies the characteristics of teachers, children, households and costs as causes of learning (Glewwe and Muralidharan, 2015). The problem with this approach is that it can underestimate the determinants that affect the characteristics of households, teachers or schools, as Glewwe and Muralidharan (2015) notes. These characteristics could encompass broader territorial, economic or social variables, such as the role of teachers' unions (Ross Schneider, 2021). Without ruling out evaluations based on production functions, it is justified to frame them within the broader context outlined in diagram VI.1.

2.   Structural gaps as determinants

Solar (2010) explained how, regarding health, socioeconomic standing is more important a cause of gaps compared to intermediate determinants. Along with the capabilities of the State and government policies, this standing belongs to structural determinants. Socioeconomic standing can be seen in the gaps between rural and urban areas and between the high and low socioeconomic levels. It is also observed in the differences that arise from the sex or ethnicity of individuals. It gives rise to what may be described as the structural heterogeneity that exists in the social sphere and, together with public policies, conditions the margins of social mobility.

Most of the gaps derived from the socioeconomic standing of individuals, families and communities reflect inequalities that manifest in different health and education capacities with a systemic dimension. Thus, structural heterogeneity as a whole reflects not only economic gaps but also social gaps, which can be interpreted as gaps in capabilities (French-Davis, 2019). Two types of economic or social gaps can be identified: between groups or sectors, which Gaudin and Pareyón (2020) described as "vertical" and "horizontal" gaps, or gaps between countries. To the extent that they can be narrowed, they will contribute to a greater sectoral and systemic effect of policies aimed at expanding health and education coverage and quality.

3. SDGs as the base for assessing gaps

The SDGs provide a base from which to measure structural gaps, including the fiscal, education and health gaps. The application of SDGs has favoured the use of homogeneous statistics worldwide and facilitated comparisons between and within countries. Statistical indicators of structural gaps have received wide attention in methodological studies that assess structural gaps (Lupano, 2021) after early research began to use SDGs as benchmarks (Amar, Vega and Erbes, 2016). Since this study will evaluate the fiscal gaps corresponding to education and health, SDGs 3 and 4 and their respective targets will be taken as the main reference. Sustainable Development Goal 3 is to ensure healthy lives and promote well-being for all at all ages, while Goal 4 is to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all.

To assess vertical gaps, it is useful to disaggregate the levels reached in each target by gender, area, ethnicity (where possible) and income or wealth quintile. The comparison between the levels reached by the targets in two different years (when the information is available) makes it possible to evaluate their evolution. The proportional progress of each indicator is identified by the following progress index (IA):

$$IA1 = [(x2-x1)/(M-X1)]100$$

and

$$IA2 = [(x1-x2)/(X1-M)]100$$

where x1 is the value (of the percentage of coverage or any other relevant indicator) in the initial year (2000), x2 is the percentage in the final year (2018 or 2019), M is the SDG target, and X1 is the national average of the indicator being measured.[2] IA1 is applied to cases when the target is a roof, such as 100% coverage, while IA2 is applied when it is a floor, such as the malnutrition target.

To evaluate horizontal gaps between countries, the indicators of the countries under study are compared with the targets achieved by the most advanced countries, the Latin American averages and the targets corresponding to each SDG. Thus, the situation can be looked at from a broad perspective.

4. The effect of government expenditures

Fiscal policy commitments are more general, and they are implicit in several of the SDGs (Navid 2021) that have financial implications (MFI 2019). A first approach to the analysis of government spending is to decompose the growth of per capita health and education expenditures, according to the methodology of Das Gupta (1993) as applied by Chao and others (2018) to health expenditures. This decomposition makes it possible to explain the growth in per capita public spending on health or education as a result of changes in (i) per capita income or GDP, (ii) total public spending as a proportion of GDP, and (iii) spending on education or health as a proportion of total expenditures.[3] Its mathematical expression is as follows:

$$GS/N = Y/N \times GT/Y \times GS/GT$$

where GS is public sector spending (education or health), N is population, Y is GDP, and GT is total public spending.

Comparison of per capita spending, either on health or education, and its relationship to per capita GDP and certain results in both sectors, compared to other countries, allows conclusions to be drawn on the degree of effort and effectiveness of interventions by the government on the public spending side. In a pioneering study, Filmer and Pritchett (1999) found that the positive impact of public spending on health (measured as a proportion of GDP) on infant and child mortality was very limited. Rajkumar and Swaroop (2002) found no evidence that increases in public spending had positive effects on education and health in countries with defective bureaucracies and high levels of corruption. However, they did have positive

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[2]   When the index is calculated for a country as a whole, x1 is the percentage (of coverage) in the initial year (2000), X is the national average (which in this case coincides with x1) and x2 is the percentage in the final year (2018 or 2019). When calculated by strata or particular groups, x1 corresponds to coverage within the stratum and X1 is the national average.

[3]   See Das Gupta (1993) for the decomposition methodology used with three factors.

effects when these conditions improved. This does not mean that the absence of a statistically significant relationship between public spending and outcomes in education and health is insignificant. Rather, it means that expenditure is not being allocated efficiently and effectively, so it should not be interpreted as a justification for the privatization of health services (Cutler, Deaton and Lleras, 2006).

Following the study mentioned above, Sommer (2022), based on a sample of low- and middle-income countries between 1996 and 2012, found that the variations in child mortality in these countries could be explained only if both levels of public spending on health and variations in governance were taken into account (as measured by World Bank indicators). This confirms that the fiscal contribution is important not only to achieve a goal in itself but also to favour the strengthening of other conditioning factors (such as the education of mothers). However, efficiency and proper use of resources and determinants are key to the issue. The foregoing justifies taking into account the set of structural determinants, as well as intermediate variables, to evaluate the impact of public spending.

B.   Government expenditure and education gaps

1.   Government expenditure on education

Regarding government expenditure on education in the four countries under study, only Honduras and Mexico made expenditures equivalent to 4% of GDP by the end of the decade of 2010, the goal that was established by the Third United Nations Conference on Financing for Development. A downward trend can be observed in both countries, especially in Mexico, starting in 2015 (see figure VI.1). El Salvador approached the goal, but it is also showing a downward trend. Guatemala has not shown a downward trend but has kept spending on education around 3% of its GDP.

Figure VI.1
Selected countries: health expenditure as percentage of GDP, 2019
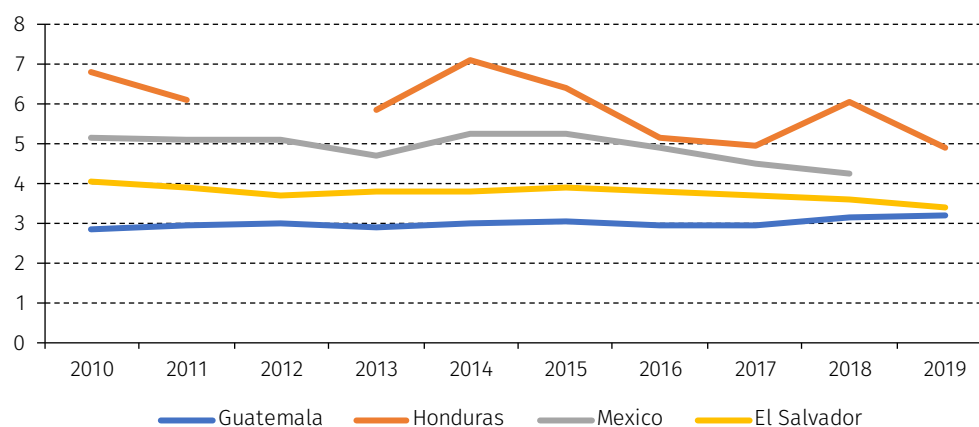
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

Estimating per capita public spending on education is useful for identifying causal relationships between spending and outcomes (Vegas and Coffin, 2015). It is shown that, due to the level of national income, spending per student in Mexico is clearly higher than in the Central American countries (see figure VI.2). The three Central American countries show similar levels and trends.

Figure VI.2
Selected countries: per capita government expenditure on education, 2005-2019
(Current dollars)
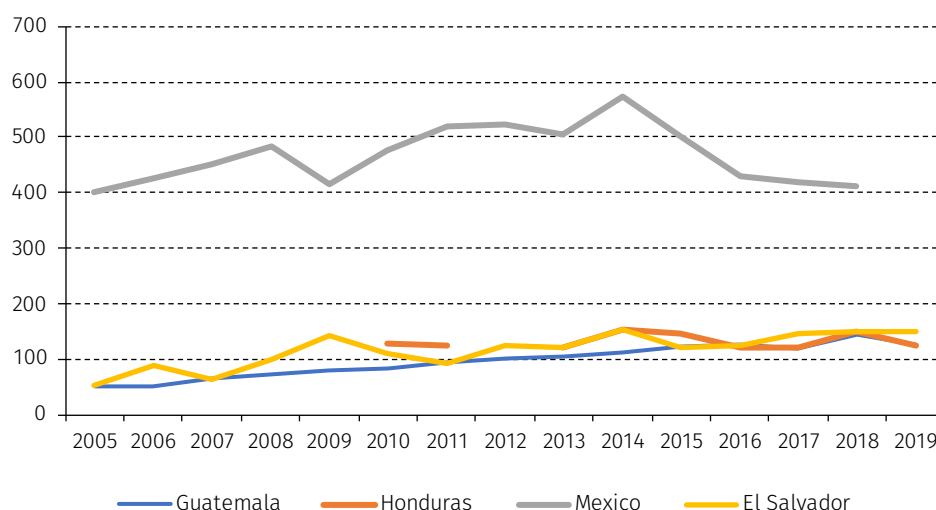
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

Figure VI.3
Selected countries: effects on per capita education expenditure of increased income and education spending, 2000-2019
(Percentages)
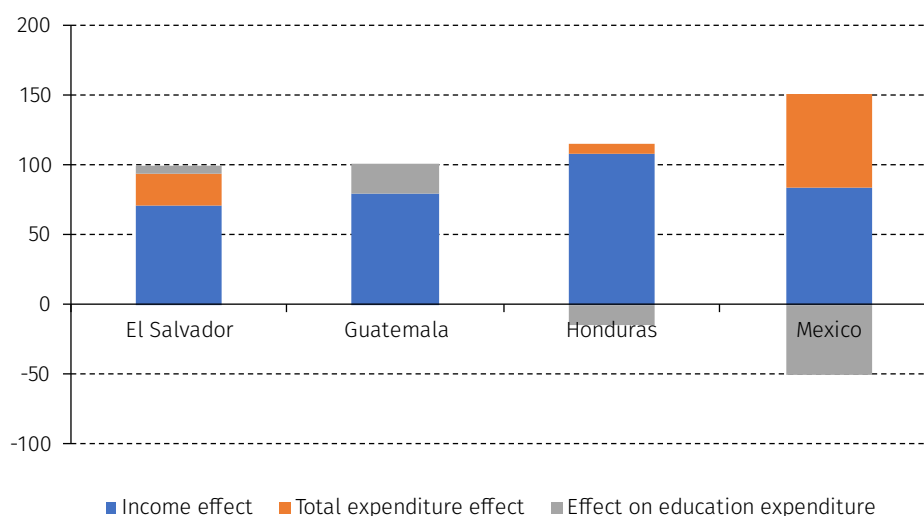
Source: Prepared by the author, on the basis of World Bank, United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Monetary Fund (IMF).

When decomposing the growth of per capita public spending on education according to the methodology of Das Gupta (1993) as applied by Chao and others (2018), it is concluded that, among the three explanatory effects of the changes in public spending, the increase in per capita income (GDP) was the most important for the growth of education spending in the four countries between 2000 and 2019, with the lowest contribution taking place in Mexico (see figure VI.3). In Honduras, GDP growth was virtually the only determining factor. The change in the proportion of the budget allocated to education was significant only in Guatemala, but to a lesser extent than the increase in per capita income. The reduced

share of education spending as a proportion of the budget in Mexico and Honduras can be interpreted as a lower priority for education in both countries. The increase in the total budget was significant in Mexico and El Salvador, but not in Guatemala, due to the limited fiscal capacity of that country.

2.   Private spending on education

According to the OECD, in Mexico, private spending on education from pre-school to post-secondary amounted to 0.60% of GDP in 2019, one of the highest among OECD countries. The same level of private spending was observed on tertiary education (0.61% of GDP). In this case, spending in Mexico was well behind what other members of the OECD spent.[4] Adding both types, private spending in Mexico reached 1.2% of GDP in 2019. There is no information on private spending on education as a proportion of GDP in the Central American countries. However, the high degree of private coverage of secondary and tertiary education in Guatemala, where it covers 38.9% of all students, means that the total proportion of students served by the private sector is significantly higher than in the other countries.

3.   Possible outcomes of government expenditure on education

The systemic vision proposed in this chapter implies that, though the availability of resources is only one of the determinants of education and learning coverage, its impact is fundamental. A high correlation coefficient was found between spending per student and gross enrolment at all levels of education except primary school (see table VI.1). The same is true of the relationship between reading spending and math and reading test scores, which is significant for all education levels.

Table VI.1
Correlation coefficients between spending per student, enrolment and learning indicators in developed and developing countries, 2010 and 2019

	Pre-school enrolment	Primary enrolment	Secondary enrolment	Tertiary enrolment
Spending per student 2010	0.55	–0.25	0.67	0.50
Spending per student 2019	0.49	0.000	0.44	0.33
	Primary reading score	Primary math score	Score in reading secondary	Score in math secondary
Spending per student 2010	0.61	0.58	0.68	0.66
Spending per student 2019	0.71	0.74	0.68	0.74

Source: Prepared by the author, on the basis of between 50 and 64 developed and developing countries recorded in the databases of UNESCO, the World Bank and Organisation for Economic Co-operation and Development (OECD)-Programme for International Student Assessment (PISA), World Bank, Free database, School enrolment, tertiary (% gross), UNESCO Institute for Statistics (UIS) UIS Stat Bulk Data Download Service [online] https://data.worldbank.org/indicator/SE.TER.ENRR; Organisation for Economic Co-operation and Development (OECD)-Programme for International Student Assessment (PISA), Program for International Student Assessment, "Reading performance" [online] https://data.oecd.org/pisa/reading-performance-pisa, OECD (2014), PISA Assessment and Analytical Framework: Science, Reading, Mathematics and Financial Literacy, PISA, OECD Publishing, Paris, 2014 [online] https://www.oecd.org/pisa/keyfindings/PISA2012_Overview_ESP-FINAL.pdf, Organisation for Economic Co-operation and Development (OECD), *PISA for Development Assessment and Analytical Framework: Reading, Mathematics and Science*, OECD Publishing, Paris, 2018 [online] http://dx.doi.org/10.1787/9789264305274-en; United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online] http: // data.uis.unesco.org.
Notes: Enrolment means the proportion of gross enrolment. Score means average scores in math and reading according to standards set by UNESCO and PISA. Correlation coefficients are significant (value-p less than 0-05) for all levels except primary.

The lack of a correlation between spending per student and primary enrolment is explained by the existence of several developing countries with limited spending on education but whose enrolment rates exceed 100%. Another explanation may be found in the existence of developed countries with matching levels of enrolment but much higher spending. Coverage above 100% is partly explained by the mismatch

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[4]   See [online] https://data.oecd.org/eduresource/private-spending-on-education.htm.

between the age of children and the age they would normally have when attending primary school. It is also explained by the relative worldwide success in achieving high primary enrolment rates.

Lower correlation coefficients between enrolment and expenditure in 2019 compared to 2010 suggest the growing importance of other variables and probably result from proportions close to 100%, which have already been achieved in some cases. In contrast, the highest correlation coefficients between spending and academic results in 2019 suggest the growing importance of available resources for learning.

4.   The degree of revealed priority assigned to spending on education

The relationship between spending per student and GDP per capita is compared for the four countries under study and the rest of the countries in the world for which there is information to analyse the (revealed) degree of priority assigned to spending on primary and secondary education. Two indicators are useful: (i) countries that lay above or below the correlation line between GDP per capita and spending per student, which determines whether countries allocate relatively more (below the line) or less (above the line) resources to education (for each level) than the world average; and (ii) the absolute level of spending per student and GDP per capita compared to other countries as measured on the X and Y axis.

A stylized fact is that the countries under study give a higher priority to allocating resources to primary education than to secondary education. In a wide range of countries for which information was available from UNESCO, the allocation of resources for primary education in 2018 shows a high correlation between the allocation of resources per student and GDP per capita.[5] El Salvador and Guatemala are below the average line, which implies they allocate a greater proportion of their resources to primary education than the world average. However, a low GDP per capita limits the absolute amount of spending available for each student. Mexico is in the opposite position, above the line, which reflects a somewhat lower priority than average. However, it assigns a higher amount of resources per student, which is congruent with a higher GDP per capita. The above information may be complemented with data on spending per student in primary school. Guatemala has the lowest total spending per student (see figure VI.4) compared to Mexico, El Salvador and Honduras.

Figure VI.4
Selected countries: spending per student on primary education, 2013 and 2018
(Constant dollars PPP)
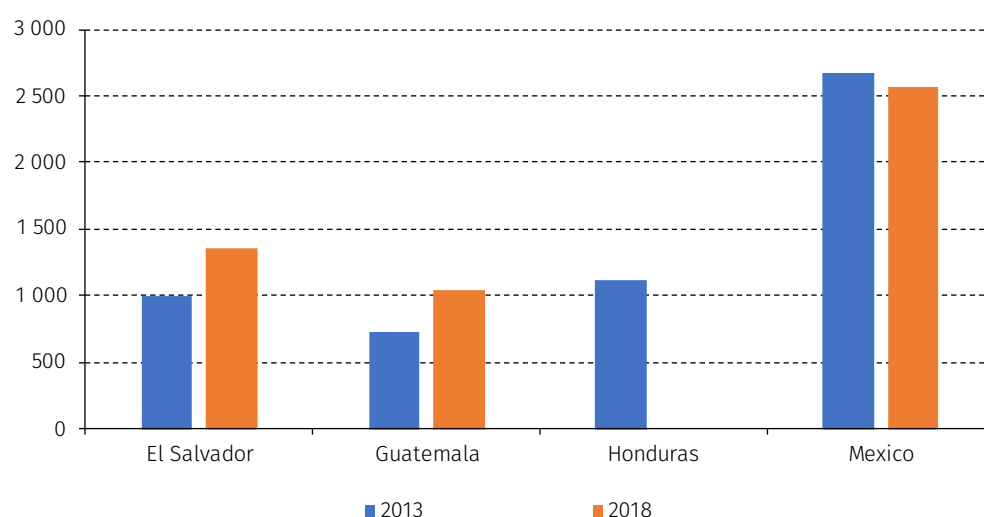
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org; and the World Bank, Free database, "GDP per capita, PPP (constant 2017 international $)" [online database] https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD.

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5   Number of observations: 51; Pearson correlation coefficient: 0.93; p-value: 0.0000.

For secondary education, there is again a high degree of correlation between spending per student and GDP per capita.[6] Although there are no data for Mexico for 2018, data for 2010 put this country slightly above the trending line without a bias greater than the world average. However, its GDP allows the country to assign a higher spending per student. In 2018 Guatemala was exactly above this line, so the proportion of GDP allocated to secondary education corresponds to the world average, moving away from what was a more favourable bias towards primary education. El Salvador and Honduras were in a similar position, quite close to the world average.[7]

5.   The horizontal gaps in education coverage and government expenditure

Along with other determinants, government expenditure reflects a gradual reduction of horizontal education gaps. Horizontal or external gaps measure differences between countries by measuring how far behind a country stands from an SDG target or the country that came closest to it. To have a wider sample with which to compare the four countries under study, education data for the Western hemisphere, that is, the Americas were obtained from UNESCO (to ensure homogeneity).

Between 2000 and 2018 or 2019, there very significant progress was made in achieving some of the SDG 4 targets. Coverage of primary and secondary education (target 4.1) increased significantly during the first two decades of the 21st century in El Salvador, Guatemala, Honduras and Mexico. This also happened with organized learning one year before the official age for entry into primary education (part of target 4.2). The SDGs set targets of 100% coverage in pre-school, primary and secondary school. The progress index shows that pre-school education coverage grew more, followed by the primary and secondary levels (see table VI.2).

Table VI.2
Selected countries: education coverage 2018-2019 (proportion) and progress in education coverage between 2000 and 2018-2019 (measured with the progress index)
(Percentages)

	El Salvador		Guatemala		Honduras		Mexico	
	Coverage	Progress index	Coverage	Progress index	Coverage	Progress index	Coverage	Progress index
Pre-school	80.0	39.0	83.9	na	76.9	48.5	99.1	93.6
Primary (finished)	92.9	75.4	86.6	73.0	91.0	76.3	98.1	79.5
Complete secondary first cycle	75.1	46.1	52.1	32.9	53.4	39.6	88.6	65.2
Complete secondary second cycle	59.2	20.0	36.4	16.7	37.8	21.9	58.7	26.1

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.
Note: The progress index is $[(x_2-x_1)/(M-x_1)]100$, where x_1 is the proportion of coverage for the initial year (2000), x_2 is the proportion in the final year (2018 or 2019), and M is the SDG goal. Data from UNESCO [database online] http://data.uis.unesco.org/Index. aspx?DataSetCode=SDG.

This is consistent with the lower priority that these countries, especially Guatemala, assign to public spending for secondary education. It is also associated with lower levels of per capita income in Central American countries, which are reflected in lower public spending per student. In El Salvador and even more in Mexico, the gap with other countries of the hemisphere is much smaller for the first cycle of secondary education. Nevertheless, coverage is lower for the second secondary cycle, and the gap relative to other countries is still significant.

SDG target 4.3 seeks to ensure access for all to quality technical, professional and college training. The growing nature of the differences is particularly evident when the gaps in each of these types of education are compared against the country with the best indicators (see table VI.3). This coverage gap

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6   Number of observations: 52; Pearson correlation coefficient: 0.91; p-value: 0.0000.

is larger in the three Central American countries, where El Salvador does slightly better in college enrolment. The gap is much smaller in Mexico.

Table VI.3
Selected countries: gaps in countries with the highest scores for college enrolment, training and vocational training
(Percentages)

Country	Instruction vocational	Training at work	Enrolment university
	2018	2017	2019
El Salvador	-21.8	-57.4	-66.0
Guatemala	-19.5	-56.7	-73.3
Honduras	-19.4	-56.0	-70.0
Mexico	-16.3	-28.9	-52.6

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.
Note: According to UNESCO data, the Western country with the highest training scores is the United States, the country with the highest proportion of vocational training is Bolivia, and the country with the highest college enrolment is Argentina.

SDGs target 4.4 seeks to expand access to technical and professional skills. The indicator for this target is the proportion of young people and adults with the ability to use information and communication technologies. For this target, Mexico appears just in three out of more than 10 UNESCO indicators, while the Central American countries do not appear in any, reflecting a lag in this area (see table VI.4). Low digital literacy contrasts with literacy targets (see figure VI.5). In spite of its increasing trend, the literate population in Guatemala represented only 80.8% of those over 15 years of age in 2018. In Honduras, the levels were higher but not yet reaching 100% (87.2%). Something similar occurred in El Salvador (89.0%) and Mexico (95.4%). This means that the challenge of meeting the 4.6 target (significantly reducing adult illiteracy and eradicating it among young people) is still open.

Table VI.4
Selected countries: digital knowledge indicators, 2019
(Percentages of young people and adults)

Country	Can manage files spread	Can cut and paste	Can use sheets
Mexico	31.8	31.8	25.9
Mexico's position	50	35	34
Country with highest scores: UAE	99.1	90.8	76.0
Gap between Mexico and the UAE	-67.3	-59.0	-50.1
Cuba	24.5	22.3	22.3
Ecuador	28.0	27.0	19.6
Colombia		33.3	23.0
Peru		31.2	20.2
Brazil		24.1	11.6

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.
Note: The United Arab Emirates scored highest in all three categories.

Figure VI.5
Selected countries: literacy rate for people over 15 years old, 2013 and 2018
(Percentages)
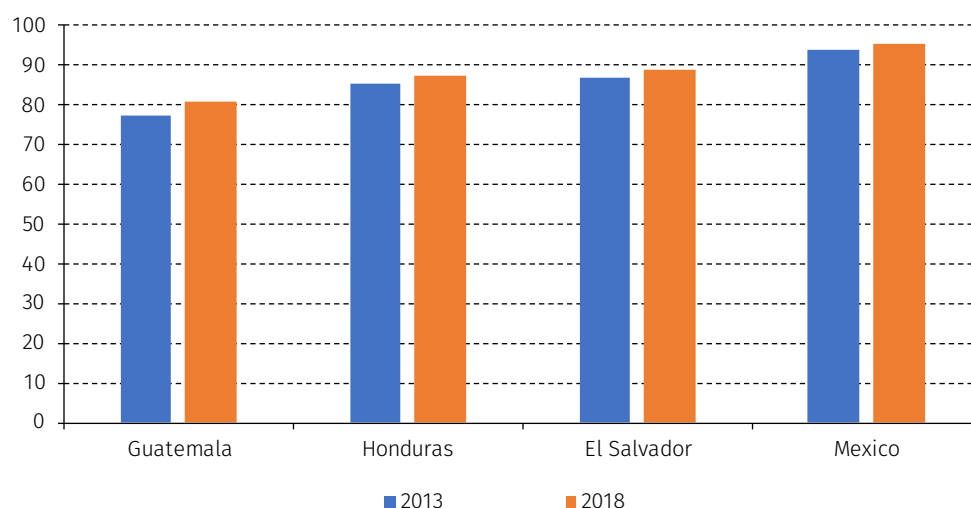
Source: Prepared by the author, on the basis of World Bank, Free database, "Literacy rate, adult total (% of people ages 15 and above), Latin America & The Caribbean" [online database] https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=ZJ.

Regarding the relationship between public spending and education coverage, no correlation was found in primary education for the set of countries for which information was obtained from UNESCO. At this schooling level, Guatemala and El Salvador, on average, spend lower amounts than most countries, but coverage is similar. For secondary education, Mexico had higher spending per student and higher coverage, while El Salvador and Guatemala were in the opposite position.

6.   Horizontal learning gaps and government expenditure

In the four countries under study, learning gaps were larger than coverage gaps (see table VI.5). The available data do not allow trends to be identified, but it is clear that the gaps in Guatemala and Honduras (no comparable data were found for El Salvador) were significantly higher when moving from the lower levels of education (second and third grade of primary school) to higher levels (complete primary school). This is even more evident for secondary education, in which proficiency gaps are wider, both in reading and math.

Guatemala and Mexico illustrate two different patterns of relationship between per-student spending on education and academic achievement.[8] In both cases, the expenditure/performance ratio stood above the world average in 2018, though this was clearly higher in Guatemala, given its low coverage. This means that, in Guatemala, the resources required to generate academic results were high, as these were conditioned by structural factors and intermediate variables that limited their effectiveness, as will be seen below. In addition, because spending per student was relatively low, academic results were extremely poor.

In contrast, Mexico's greater ability to transform resources into academic performance, combined with higher spending per student, produced significantly better results than in Guatemala. This situation is repeated almost identically when spending is related to math scores in primary school (not reproduced in this report, being very similar). There are no similar data for El Salvador and Honduras for 2018. The relationship between spending per pupil and academic achievement is very similar in secondary school.

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[8]   Number of observations: 44; Pearson correlation coefficient: 0.70; p-value: 0.0000.

Table VI.5
Selected countries: gaps in math and reading for Guatemala, Mexico and Honduras compared to countries
in the Americas, 2013 and 2015
(Percentages)

	Gaps with highest scoring country		Gaps with average	
	Reading	Math	Reading	Math
Grades 2-3				
Guatemala	-21.2	-32.6	-4.4	-9.8
Honduras	-19.5	-27.5	-2.7	-4.7
Mexico	-11.5	-7.4	5.3	15.4
Primary 2013				
Guatemala	-61.4	-35.0	-10.0	-9.7
Honduras	-67.2	-37.7	-15.9	-12.4
Mexico	-40.2	0.0	11.1	25.3
Secondary 2015				
Guatemala	-59.4	-75.0	-22.4	-23.5
Honduras	-59.6	-70.2	-22.6	-18.7
Mexico	-31.1	-42.3	5.9	9.2

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.
Note: Costa Rica was the country against which results for grades 2-3 were compared. Primary and secondary were compared against Canada. The average included countries in the Americas for which UNESCO had available data. Years with the most countries (17 for grades 2-3 and primary and 16 for secondary). Guatemala, Honduras and Mexico were included. Existent series are incomplete and available information concentrated in 2013 and 2015. There are no available data for El Salvador.

7.   Government expenditure and vertical gaps in education

a)   The progressiveness of spending on education

In the countries for which information is available, government expenditure on pre-school, primary and lower secondary education has been less regressive than for higher levels (see table VI.6). Upper secondary education in Guatemala and tertiary education in El Salvador, Guatemala and Mexico show regressive public spending, as shown by significantly greater ratios in the Palma index.[9]

Table VI.6
Selected countries: government expenditure on different levels of education assigned to the tenth decile as a
proportion of expenditure in the four poorest deciles, Palma index
(Percentages)

	Pre-school	Primary	Sec. 1st cycle	Sec. 2nd cycle	Tertiary
El Salvador 2017	4.0	4.3	na	10.9	146.8
Guatemala 2014	6.8	4.3	7.6	45.8	585.1
Honduras 2011	8.5	6.4	na	na	na
Mexico 2014	4.3	3.5	4.7	11.9	74.3

Source: Prepared by the author, on the basis of the incidence of spending on education and health by deciles, CEQ Standard Indicators, CEQ Data Center on Fiscal Redistribution [online database] https://commitmentoequity.org/datacenter.

b)   Progressive path of coverage expansion

In pre-school and the primary level, a progressive trajectory of coverage expansion has predominated. Table VI.7 shows a greater expansion of coverage of pre-school and primary school in the

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[9]   The Palma index or Palm ratio measures the relationship between the proportion of income corresponding to the tenth highest income decile and the proportion corresponding to the four deciles with the lower incomes. In this study, the Palma index was adapted to estimate the relationship between spending channelled to the last decile compared to income transferred to the four poorest deciles.

lowest income quintile (Q1) for all countries. This trend has been stronger in Mexico and El Salvador than in Guatemala and Honduras. The expansion of coverage in the secondary level does not show the same trend and still has way to go before reaching 100%. The consequence of the progressive trajectories is reflected by the fact that coverage among all quintiles has already approached 100% in pre-school and primary schools in Mexico. In the other countries, the gap is wider, and it increases as the level of education rises.

Table VI.7
Selected countries: progress in pre-school, primary and secondary levels between 2000 and 2018-2019
(Progress index[a])

	El Salvador	Guatemala	Honduras	Mexico
Attendance 1 year before				
1	92.6	na	72.7	165.5
2	105.4	na	46.7	81.9
3	54.5	na	44.4	38.3
4	41.1	na	45.2	38.4
5	16.9	na	-1.2	42.2
Primary (finished)				
1	127.1	56.1	65.7	190
2	83.8	76.2	67.6	77
3	55.4	77.8	60.8	29.3
4	36.1	52.2	36.8	35.3
5	21.9	25.7	23.1	9.8
First secondary cycle (finished)				
1	79.1	15.7	22.9	110.9
2	62.5	25.6	41.4	75.5
3	53.8	39.5	41.7	58.8
4	37.2	48	40.4	39.2
5	16.9	33.2	43	50.2
Second secondary cycle (finished)				
1	31.1	1.7	11.1	42.5
2	46.1	11.6	18.8	48.3
3	37.3	26.9	24.5	48.3
4	45.2	39.9	24.9	41.2
5	23.3	31	22.9	27.1

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org; and [online database] http://data.uis.unesco.org/Index.aspx?DataSetCode=SDG.
[a] The progress index is $[(x2-x1)/(M-x1)]100$, where x1 is the proportion of coverage for the initial year (2000), x2 is the proportion in the final year (2018 or 2019), and M is the SDG goal. Data from UNESCO, http://data.uis.unesco.org/Index.aspx?DataSetCode=SDG For El Salvador, Guatemala and Mexico data correspond to 2000. For Honduras to 2001. For El Salvador, Honduras and Mexico to 2018. For Guatemala to 2015.

c)   Narrowing the urban-rural gap

Important advances were made in the coverage of pre-school, primary and lower secondary education by the four countries. Between 2000 and 2018-2019, progress was clearly greater in rural than in urban areas (see table VI.8). This means that, for this type of education, the urban-rural gap was reduced, especially in primary education. Despite these advances, in 2018, there was still a large gap in secondary education coverage. The gap was wider for the second cycle and in Guatemala and Honduras than in Mexico and El Salvador (see table VI.9).

Table VI.8
Selected countries: progress in rural and urban education between 2000 and 2019
(Progress index)

	El Salvador	Guatemala	Honduras	Mexico
Rural education				
Pre-school	85.7	na	61.1	128.8
Primary (finished)	103.1	73.2	63.7	174
Secondary 1st cycle	64.1	34.1	27.6	108.9
Secondary 2nd cycle	41	19.5	15.8	48.4
Urban education				
Pre-school	57.6	na	27.2	63.2
Primary	29.1	21.6	28.5	35.9
Secondary 1st cycle	30.9	15.4	37.1	50.9
Secondary 2nd cycle	29.5	16.5	22.3	37.6

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

Table VI.9
Selected countries: coverage of pre-school, primary and secondary education in rural and urban areas, 2018-2019
(Percentages of students at each level)

	El Salvador	Guatemala	Honduras	Mexico
Rural education				
Pre-school	86.3	74.8	76.8	95.6
Primary (finished)	85.5	72.2	82.8	97.2
Secondary 1st cycle	63.1	35.4	32.3	81.5
Secondary 2nd cycle	41.4	21.8	20.5	42.6
Urban education				
Pre-school	94.2	84.2	76	98
Primary	92.9	86.6	91	98.1
Secondary 1st cycle	82.9	64.3	71.3	90.9
Secondary 2nd cycle	71.4	51	52.5	63.4

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

Available data on public spending do not allow for categorical conclusions to be drawn about its impact on greater or lesser coverage in urban or rural sectors. However, the Palma index (see table VI.10) for spending channelled to rural education in all four countries suggests that, in Guatemala and Honduras, the expansion of educational coverage has tended to be less regressive in rural areas, while it has been more regressive in urban areas.

Table VI.10
Selected countries: government expenditure on different levels of education assigned to the tenth decile as a proportion of expenditure in the four poorest deciles, Palma index, several years
(Percentages)

	Total	Urban	Rural
El Salvador	9.1	6.4	16.4
Guatemala	23.8	71.7	4.1
Honduras	28.8	56.7	12.7
Mexico	16.2	13.4	15.8

Source: Prepared by the author, on the basis of the incidence of expenditures on education and health by decile, CEQ Standard Indicators, CEQ Data Center on Fiscal Redistribution, Estimations made for the following years: El Salvador 2017, Guatemala 2014, Honduras 2011 and Mexico 2014 [online] https://commitmentoequity.org/datacenter.

d)   Learning gaps

In the four countries under study, significant learning gaps in mathematics and reading persist between rural and urban areas and between families of lower and higher incomes. These gaps reinforce the unequal coverage in the lower secondary level (see table VI.11). Only 1.5% of rural students in Guatemala had adequate command of this subject. Very low proportions were also observed in Honduras (8.1%) and Mexico (21.2%). Similar proportions are observed among students from poor families. This contrasts with significantly higher percentages of students in urban areas or from wealthier families, even when their results are not satisfactory. Mexico always shows better results, and Guatemala always stands furthest behind.

Table VI.11
Proficiency in reading and math in lower secondary school in rural and urban areas and among higher and lower income families in Guatemala, Honduras and Mexico, 2015 or 2018
(Percentages of students at each level)

	Guatemala	Honduras	Mexico
Rural			
Reading	9.9	18	26.7
Math	1.5	8.1	21.2
Urban			
Reading	39.1	34.3	65.9
Math	14.8	18.3	51.9
Lower income			
Reading	14.3	18.6	39.7
Math	2.6	7	28.2
Higher income			
Reading	57.7	53	74.7
Math	27.1	34.6	59.2

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.
Note: data for 2015, excepting data on rural and urban education in Mexico, which are from 2018.

e)   Private education and vertical gaps

Evaluations based on rigorous studies have found that, in many countries, private education tends to be located in urban or metropolitan areas. It also tends to favour the education of men over women and to contribute less than public education to the expansion of universal education. According to these evaluations, private education does not incorporate students from lower-income households (Ashley and others, 2014; Smith and Joshi, 2016; Akmal, Crawfurd y Hares, 2019). A comparison of the coverage of public and private education in Guatemala confirms that the latter tends to concentrate in urban areas (see figure VI.6). At all levels, public education has almost the same coverage in rural areas as in urban areas. The same conclusion can be drawn from aggregated information for El Salvador and Honduras (see table VI.12). Nevertheless, coverage of women was above 50% of total coverage in private education, slightly exceeding that of the public sector. This contrasts with information from other countries, especially in Africa.

Figure VI.6
Guatemala: urban and rural coverage of public and private education, 2019
(Percentages)
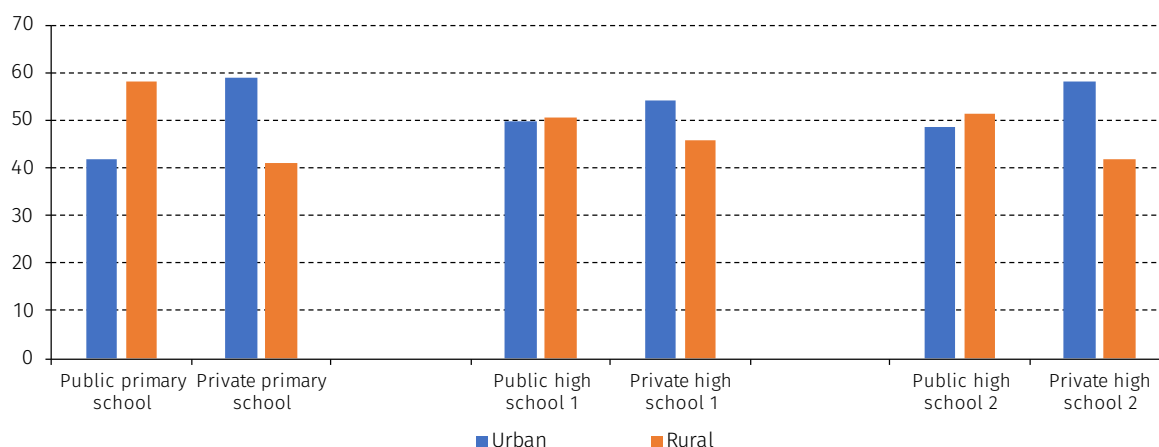
Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Empleo e Ingresos 1*, Guatemala, 2019; Ministry of Public Health and Social Assistant (MSPAS)/ National Institute of Statistics (INE)/ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/ encuestas/ensmi2014_2015.pdf.

Table VI.12
Selected countries: urban and rural coverage of women and men by quintile, 2019
(Percentages)

| | El Salvador | | Honduras | |
	Private	Public	Private	Public
Rural	10	45.7	8.9	44.7
Women	50.3	49.4	51.2	49.3
Q1	3.5	20.7	3.2	24.7
Q2	10.3	23.4	5.3	26
Q3	15.2	22.5	17.9	21.1
Q4	26	19.6	27.5	18.4
Q5	45	13.7	46.1	9.9

Source: Prepared by the author, on the basis of multiple purpose household 2019 surveys of El Salvador and Honduras. Ministry of Health-National Institute of Health/ Department of Statistics and Censuses (DIGESTYC)/United Nations Children's Fund (UNICEF), *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014: resultados principales*, San Salvador, El Salvador, April 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20 Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%202014%20MICS%20KFR_Spanish.pdf; Ministry of Health [Honduras]/ National Institute of Statistics (INE)/ICF International, *Honduras ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen% 20ENDESA.pdf.

The unequal rural coverage by the private sector tends to be reproduced in the case of indigenous and non-indigenous coverage in Guatemala but with two variants. First, the gap between the public and private sectors was significantly wider in primary school, where almost 30 percentage points separated the two of them (see figure VI.7). The proportion of the Indigenous population served by public education (46.4%) roughly corresponded to the proportion of the Indigenous population registered by the 2018 census. The Indigenous population covered by private education was less than half (18.7%). Second, the difference with the public sector fell in secondary school, especially in the second cycle (where the proportions served were equivalent). At this education level, the proportion of the Indigenous population served (around 20%) by both the private and public sectors lays well below its demographic weight in Guatemala.

Figure VI.7
Guatemala: coverage of public and private education, by ethnicity, 2019
(Percentages)
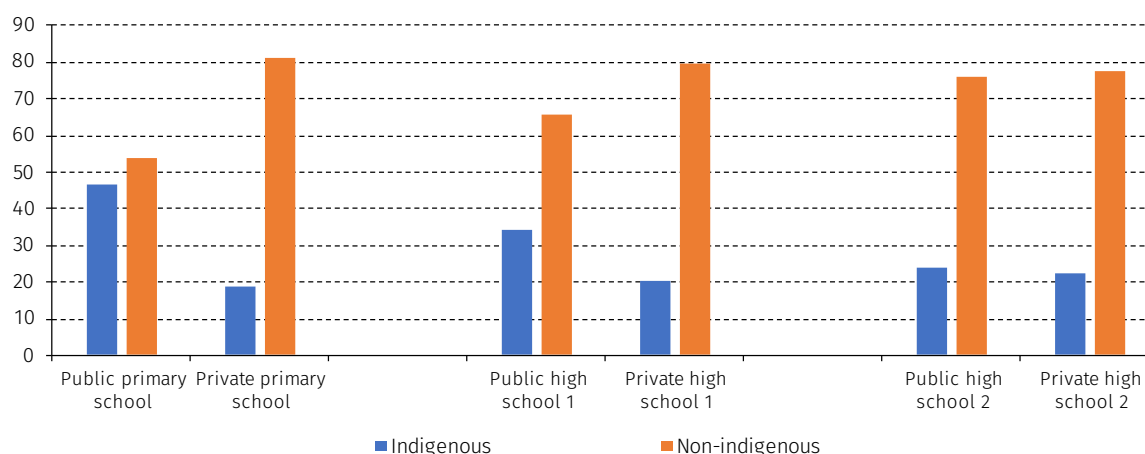
Source: Prepared by the author, on the basis of National Institute of Statistics (INE), National Survey of Employment and Income 1-2019, Guatemala [online] https://www.ine.gob.gt/sistema/uploads/2020/01/15/202001151726176jUXYrCteX8JWZUbSn6B6fCXUXaZQ78F.pdf

The available information on education for various socioeconomic strata confirms the lower propensity of private education to serve students from the poorest families of Guatemala, El Salvador and Honduras (see table VI.13). For there to be an equitable (proportional) distribution, the coverage for each quintile would have to reach 20%, but what is observed is coverage of private education that corresponds to a regressive pattern.

Table VI.13
Guatemala: coverage of public and private education by quintile, 2019
(Percentages)

Q	Primary		Secondary 1st cycle		Secondary 2nd cycle	
	Public	Private	Public	Private	Public	Private
1	24.3	3.7	14.8	8.2	6.2	7.2
2	26.4	7.8	23.8	16	20.3	10.6
3	22.1	17.1	21.9	19.1	16.8	19.7
4	17	26	22.7	22.7	30.4	23.7
5	10.2	45.3	16.8	34.1	26.3	38.9
Total	100	100	100	100	100	100

Source: Prepared by the author, on the basis of National Statistics Institute (INE), National Employment and Income Survey 1, 2019, Guatemala, 2019 [online] https://www.ine.gob.gt/encuesta-nacional-de-empleo-e-ingresos/.

f)   Gender equality and education coverage

Between 2000 and 2018, progress was made in favour of gender equality in education in the three Central American countries and Mexico. The Central American countries favoured the enrolment of girls in primary school. Progress for male students was similar, but not greater. Mexico was the country that made the most progress in ensuring gender equality in pre-school and secondary education. In previous years, the country had come close to 100% male and female coverage. In 2018-19, educational coverage for women was higher than for men in almost all levels and countries (see table VI.14). Besides Mexico, Honduras stood out with particularly high gaps in favour of women. Guatemala was the exception, with higher coverage of men in primary and secondary education.

Table VI.14
Selected countries: coverage of pre-school and primary and secondary levels among women and men, 2018-2019
(Percentages of students at each level)

	El Salvador	Guatemala	Honduras	Mexico
Women				
Pre-school	81.1	84.3	77.9	100
Primary (finished)	91.4	80.8	90.1	98.3
Basic secondary	75.1	51	56	89.7
Superior secondary	60.2	35.9	42.9	60.8
Men				
Pre-school	79	83.5	75.9	98.1
Primary	88.1	82.5	84	97.5
Basic secondary	75	53.7	50.7	87.4
Superior secondary	58.1	36.6	32.5	56.6

Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

g)   Gender and the learning gap

In Mexico, Honduras and Guatemala in 2013 or 2015, the proportion of children who were proficient in reading and mathematics in the second and third grades was similar to that prevailing among young people completing primary or basic secondary school. In some cases, the proportion was even higher. In other words, children's learning deteriorates as they progress to higher grades. Women are more proficient in reading, while men are more proficient in mathematics. This situation is reproduced in other developed and developing countries.

8.   The effects of intermediate determinants

According to the World Bank, increased public spending does not necessarily contribute to learning when spending is not allocated equitably, resources do not reach schools or are used for other purposes, decisions about public spending are not aligned with learning, government agencies do not have the capacity to use funds effectively, or public spending replaces private spending without any additional net effect (World Bank, 2018).

This chapter proposes a conceptual framework that allows for a broader approach that complements the effect of structural determinants with intermediate variables (Solar, 2010) that also influence the results of educational coverage and learning. Intermediate determinants may mediate the impact of public spending, expanding or dampening its optimal use. These determinants of the impact of public spending include individual characteristics such as a person's health, his or her family and community context and the functioning of the education system.

a)   Individual, family and community context

PISA-D and PISA surveys[10] (OECD, 2018) make it possible to have indicators of intermediate variables for Guatemala, Honduras and Mexico that help to identify stylized facts. Some of these variables tell on the nature of communities and families. For instance, the sense of belonging to a school tends to be high in Honduras (where 92.5% of students identify with their school) and Guatemala (90.3%), in contrast to lower proportions in Mexico (76.1%) and OECD members in general (73.0%).

In other areas, the disadvantages of Guatemala and Honduras are evident. Family support is limited: parents who never or rarely discuss school outcomes with their children account for almost half of the total (47.1% in Guatemala and 44.8% in Honduras), compared to a third in other developing countries assessed by PISA -D. Lack of parental education is likely to reinforce this phenomenon: Adelman

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[10]   See [online] https://www.oecd.org/pisa/pisa-for-development/PISA_D_Resultados_en_Foco.pdf. PISA-D (Pisa for Development) is an OECD assessment designed for low- to middle-income countries.

and Székely (2016) find that secondary school enrolment is negatively related to the level of education at home, which is lower in Guatemala and Honduras than in Mexico and El Salvador.

The territorial dimension can be decisive. Adelman and Székely (2016) show that, in El Salvador, the supply of education, specifically the availability of schools, has an important impact on school enrolment. In areas with fewer schools, enrolment is lower. Other studies have confirmed that it is an educational intervention with positive effects (Glewwe, 2021). It remains to be determined to what extent conditions in schools are negative: according to PISA-D data (OECD 2018), in 2016-17, schools with adequate plumbing accounted for only 34.7% of the total in Honduras and 41.5% in Guatemala.[11] Community and territorial conditions as determinants of education in these countries are another topic that requires more research.

b)   The education system

According to PISA-D data, the student/teacher ratio in Guatemala and Honduras (23) is similar to the rest of Latin America (22), without significant variations between rural and urban areas. However, it has been well below OECD countries (13). There has been some precarity in the situation of teachers, as half of them do not hold tenure in Guatemala (50.8% of the total teachers hired had permanent contracts in 2017). The same happens to a third of Honduran teachers (69.3% were permanent teachers). In contrast, according to PISA-D data, 81.3% of teachers in other developing countries have long-term contracts. This situation is compounded by absenteeism, a widely recognized problem in many countries (Chaudhury and others 2006). Statistics on this subject were only available for this study in the cases of Guatemala and Honduras. Data were derived from PISA-D tests.

Total absenteeism has been especially high in public education in Honduras (34.6%), followed by private education in Guatemala (25.7%). This situation, not unlike what happens in other developing countries in the PISA-D database, entails that some of the resources allocated to education "leak" through teaching hours not actually taught. This would affect learning more than coverage and would be an additional explanation for education without learning, an issue discussed above. One last indicator of the educational environment and the efficient use of resources is the repetition rate, which has dropped in primary schools in the four countries (see figure VI.8). Nonetheless, there are important differences, as shown by the particularly high rates that persist in Guatemala, despite the downward trend.

Figure VI.8
Selected countries: repetition rate in primary education, 2000-2019
(Percentages)
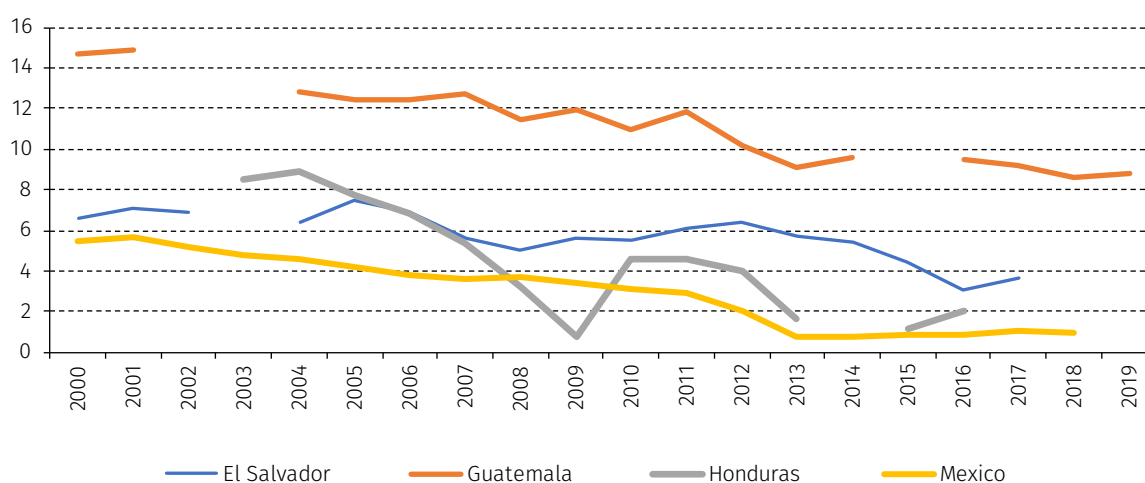
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

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[11]   This is linked to access to water, sanitation and hygiene (SDG 6). It may have an impact on health and, therefore, on education.

The difficulties of increasing coverage and improving secondary education are displayed by a repetition rate that has been higher in the three Central American countries, which has decreased more slowly than rates for primary education (see figure VI.9). In this case, a downward trend is not evident in the Central American countries, which lag behind Mexico.

Figure VI.9
Selected countries: repetition rate in secondary education, 2000–2019
(Percentages)
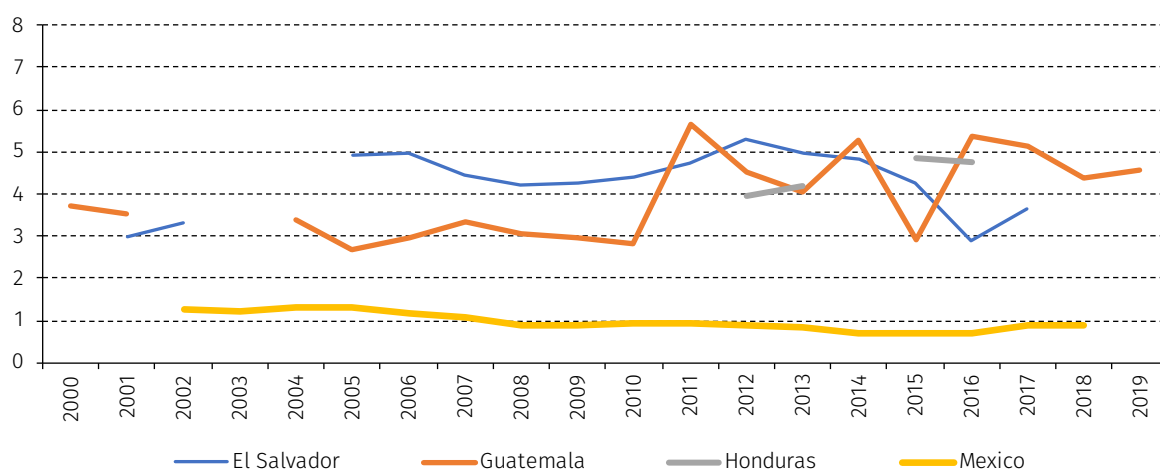
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), UIS.Stat Data Center [online database] http://data.uis.unesco.org.

C.   Government expenditure and health gaps

1.   Public and private spending on health

Regarding health, the overall situation is different than for education. The private sector has spent more than the government in Guatemala and Honduras. Private sector spending in Mexico and El Salvador, though smaller, still reaches significant levels. Public spending (as a proportion of GDP) grew in El Salvador, Guatemala and Mexico between 2000 and 2019, but only in El Salvador, it helped to replace private spending (as a proportion of GDP), specifically in the form of out-of-pocket expenses.

In 2019, Guatemala and Honduras were among the countries with the highest levels of out-of-pocket spending (as a proportion of GDP) in the world.[12] The inverse ratio between public spending and out-of-pocket spending[13] also indicates lower government spending as a proportion of GDP. This is similar to what happens in Mexico, while in El Salvador, public spending was significantly higher and out-of-pocket spending clearly lower than in the other three countries. Fan and Savedoff (2014) found that the proportion of out-of-pocket expenses is an inverse ratio of the fiscal capacity of countries, measured as the proportion of GDP that corresponds to public spending. This is consistent with the limited fiscal capacity of Guatemala, Honduras and Mexico. Only El Salvador managed to maintain a slightly downward trend in out-of-pocket spending, which may be associated with an increase in public expenditure on health during the last two decades.

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[12]   Number of observations: 85; Pearson correlation coefficient: -0.72; p-value: 0.0000.
[13]   A statistically significant negative relationship between total government expenditure and total private spending, each as a proportion of GDP, was also calculated (correlation coefficient -0.298 and p = 0.006).

2.   Per capita government expenditure on health

The higher levels of per capita GDP in Mexico have led to a similarly high proportion of GDP devoted to health spending. Thus, Mexico spends more on health per individual when compared to the three Central American countries. However, this gap narrowed after 2013. In this country, there was an increase in health spending per person during the first decade, which fell during the second. However, when comparing 2000 with 2018, there is a slight net increase.[14] In Guatemala and El Salvador, per capita health spending doubled (in current US dollars) between 2000 and 2019, while in Honduras and Mexico, it tended to stagnate, especially during the second decade of this century.

As was the case of education, by decomposing the causes of growth in per capita public spending on health according to the methodology of Gupta (1993) and Chao and others (2018), it was found that, in the four countries between 2000 and 2019, the increase in income (GDP per capita) was the most important determinant (see figure VI.10); In Honduras, this was virtually the only cause of the increase in per capita spending. In El Salvador and Guatemala, the countries with the highest growth in per capita health spending, there were different complementary effects. As in education, the second most important effect was an increase in total government expenses as a proportion of GDP. This, which was especially noticeable in El Salvador and Mexico, would reflect the corresponding (relative) strengthening of fiscal capacity in each country. Only in Guatemala did the proportion of the budget devoted to health grow. In the case of Mexico, it only marginally went up.

Figure VI.10
Selected countries: effect on per capita health expenditures of an increase in income, health expenditures and total government expenditures, 2000-2019
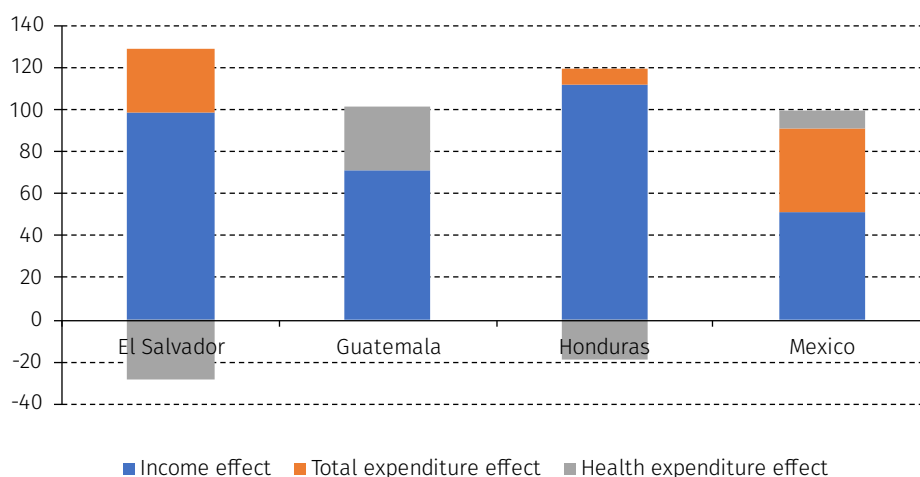
Source: Prepared by the author, on the basis of the methodology of Das Gupta (1993) as applied by Chao (2018); data from the World Bank, IMF and UNESCO; P. Das Gupta, *Standardization and Decomposition of Rates: A User's Manual*, US Bureau of the Census, Current Population Reports, Series P23-186, Washington, D.C., US Government Printing Office, 1993; F. Chao and others, "Web appendix, National and regional under-5 mortality rate by economic status for low-income and middle-income countries: a systematic assessment", *The Lancet Global Health*, vol. 6, No. 5, 2018.

3.   Horizontal gaps in health and resources

a)   Mortality rates

SDG targets for the three mortality rates (maternal, child and neonatal) were achieved (2017 or 2019) in all four countries, with the exception of maternal mortality in Guatemala. The progress index as a measure of the advance made is of little use in this context. However, a comparison with Canada, one of the countries in the Western Hemisphere with the best health indicators, reveals a wider lag in all four countries.

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[14]   Total public spending as a proportion of GDP increased from 20.3% in 2000 to 27.7% in 2010 and then fell to 26.0% in 2018, according to World Bank data. This was the main explanation for the drop in per capita health spending in Mexico during the second decade of this century.

b)   Chronic malnutrition gaps

According to the thesis of Longhi and Del Castillo (2017), structural poverty contributes to the combination of systemic diarrhoea with acute respiratory infections. Together with malnutrition in children, these conditions tend to become the main cause of death. For several reasons, it is justified to lace the reduction of malnutrition within the framework of basic health care. Among such reasons are the contribution of nutrition to health, the economic and social costs of deficient nutrition and having at hand several concrete cost-effective actions to reduce malnutrition (World Bank 2022). Around 2015, there were significant levels of child malnutrition in the four countries under study, especially in those in Central America. Since the goal is to reduce malnutrition to zero, the existing gap is of the same size as the malnutrition rate.

c)   Gaps in resources to address mortality and malnutrition

Once econometric problems such as reverse causality and bias due to omitted variables are sorted out, evidence suggests that there is a positive relationship between public spending on health per person and the reduction in mortality (Moreno-Serra and Smith 2015, Bokhari and Gottret 2007, Nixon and Ulmann 2006). In addition, there is evidence that higher out-of-pocket expenses may be associated with higher levels of mortality (Moreno-Serra and Smith, 2015).

This close relationship is manifested by the strong correlation[15] observed between infant mortality and public spending on health in 2019.[16] The four countries under study lay below the correlation line, which suggests their health spending is somewhat more effective in relation to infant mortality when compared to the world average. Starting from the ratio between per capita GDP and per capita health spending at the world level in 2000 and 2019, this study estimated the gap between observed per capita health spending and the spending that each of the four countries would have made if they spent as much as the world average (see table VI.15). As can be seen, this (fiscal) gap increased in the four countries between 2000 and 2019. The gap relatively wider gap (as a proportion of observed spending) occurred in Guatemala. El Salvador had the narrowest one.

Table VI.15
Selected countries: public health expenditure per person, observed data and estimated gap, 2000 and 2019
(GDP per capita, current international $ PPP)

	2000		2019	
	Observed	Gap	Observed	Gap
El Salvador	272.3	-88.6	416.9	-137.4
Guatemala	135.7	-254.1	203.3	-343.3
Honduras	139.7	-82.9	170.6	-191.7
Mexico	439.7	-458.9	547.8	-655.9

Source: Prepared by the author, on the basis of World Bank data, Free database, "Domestic general government expenditure per capita, PPP" [online database] https://datos.bancomundial.org/indicator/SH.XPD.GHED.PP.CD.

4.   Vertical health and resource gaps

a)   Health spending has not been progressive

Unlike spending on education, the data available on health expenditures by deciles show a more regressive impact, benefiting lower-income strata only in the same proportion as their growth. The first important conclusion to be drawn from the above is that the capacity of public spending to reduce structural gaps in health between different socioeconomic strata is limited. The second conclusion is that health spending has been more regressive in urban areas than in rural areas. This finding is consistent with the existence of social security spending that preferentially caters to the formal sector, especially in

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[15]   Correlation coefficient -0.5994887 and p-value = 0.000.
[16]   Number of observations: 53; Pearson correlation coefficient: -0.59; p-value: 0.0000.

Central American countries. The fact that there are no large differences between the regressiveness or progressiveness of health spending in rural and urban areas in Mexico reflects a broader coverage of social security, with a greater inclusion of rural populations.

b)   Per capita government expenditure on health

By establishing as a parameter that health spending per person in rural areas is equal to 1, in Mexico, spending per person in urban areas is equivalent to 91% of total spending in rural areas, according to the available information (2014). On the contrary, in the three Central American countries, per-capita public health expenditures are higher in urban areas. Guatemala (2014) stands out, as it spends almost twice as much as in rural areas. In each country, the gap between spending in urban areas and spending in rural areas is consistent with the larger gaps in health service coverage in rural and urban areas, as will be seen below.

c)   Infant and child mortality and structural poverty

The common feature of infant mortality data (death of an infant that occurs between birth and the first year) In El Salvador, Guatemala and Honduras is that the lower income levels (lower quintiles) have higher mortality rates (see figure VI.11). No equivalent data have been found for Mexico by quintile. Guatemala, which has the highest infant mortality rate, shows higher infant mortality in rural areas. This is also the case in El Salvador, although not in Honduras.

Figure VI.11
El Salvador, Guatemala and Honduras: child mortality rates, 2012-2014
(Deaths for every thousand live births)

Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Demografía y Salud (ENDESA 2011-2012) de Honduras*, 2013; National Health Institute (INS), *Encuesta Nacional de Salud, ENS 2014*, El Salvador, 2014; and Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/Planning and Programming Secretariat of the Office of the President (SEGEPLAN), *Encuesta Nacional de Salud Materno Infantil, ENSMI 2014-2015*, Guatemala; Ministry of Health/National Institute of Statistics (INE)/ICF International, *ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf; Ministry of Health-National Institute of Health/DIGESTYC/UNICEF, *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador, 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%2020 14%20MICS%20KFR_Spanish.pdf; Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/ ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.

Between 2000 and 2016, El Salvador and Honduras managed to significantly reduce infant mortality, meeting the SDG target, while Guatemala did not. In addition, there was a progressive trajectory of advance in the three countries, with the greatest progress in the poorest quintiles. The fact that in El Salvador, progress has been significantly higher in all deciles reinforces the hypothesis that the displacement of out-of-pocket spending by public spending could have ensured more uniform access to basic health services.

Table VI.16
El Salvador, Guatemala and Honduras: progress in reducing child mortality (under 5 y.o.), between 2000 and 2018-2019
(Progress index)

Q	El Salvador	Guatemala	Honduras
1	270.9	94.5	201.6
2	245.6	101.1	166.7
3	211.4	90.1	142.9
4	184.8	77.2	119.8
5	143.0	58.5	84.1
Average	211.1	84.3	143.0

Source: Prepared by the author, on the basis of Chao and others (2018) and applying the progress index; F. Chao and others, "Web appendix, National and regional under-5 mortality rate by economic status for low-income and middle-income countries: a systematic assessment", *Lancet Global Health*, vol. 6, No. 5, 2018.

In those three countries, differences persisted between quintiles, with lower levels of mortality in the highest-income quintiles. The effect of the distribution of income as a determinant factor of mortality is more categorical than the incidence of rurality (see figure VI.12). This finding is similar to what was indicated regarding infant mortality and education. Once again, a more favourable situation appears in El Salvador and Honduras. Guatemala stands in the last position. This is consistent with higher per capita public spending on health in El Salvador, more progressive spending in Honduras and lower per capita expenditure in the rural areas of Guatemala.

Figure VI.12
El Salvador, Guatemala and Honduras: child mortality rates (under 5 y.o.), 2012-2014
(Deaths for every thousand live births)

Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Demografía y Salud (ENDESA 2011-2012) de Honduras*, 2013; National Health Institute (INS), *Encuesta Nacional de Salud, ENS 2014*, El Salvador, 2014; and Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/Planning and Programming Secretariat of the Office of the President (SEGEPLAN), *Encuesta Nacional de Salud Materno Infantil, ENSMI 2014-2015*, Guatemala; Ministry of Health/National Institute of Statistics (INE)/ICF International, *ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf; Ministry of Health-National Institute of Health/DIGESTYC/UNICEF, *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador, 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%2020 14%20MICS%20KFR_Spanish.pdf; Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/ ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.

In all three Central American countries, the characteristics of expenditure help to explain the differences in mortality rates and are congruent with the unequal fiscal capacities of those States. In Mexico, per capita expenditure is significantly higher, but its impact is merely proportional (neither progressive nor regressive). Sex differences do not appear to be significant in relation to mortality in children under 5 years of age. The gaps between urban and rural areas and between quintiles are also larger in Guatemala than in the other two countries. This points to an inequality insufficiently offset by public action as one of the causes of the less favourable situation of this country.

d)   The quality of prenatal and delivery care has become increasingly important

In Mexico, although 98.4% of the women surveyed had access to prenatal care (according to the 2012 Health and Nutrition Survey, ENSANUT), only 71.5% received adequate care.[17] Socioeconomic and geographical gaps were found, and the states with the least adequate coverage also had the highest maternal mortality rates. In Mexico, almost half of indigenous women (43.8%) and women in rural areas (47.9%) did not receive any care. This trend was also observed in women in the poorest tertile, in contrast with the much more favourable situation of women in the second and third-income tertiles and in urban areas, who received care, though that care was described either as adequate or inadequate (see table VI.17).

Table VI.17
Mexico: prenatal care received by women, 2012
(Percentages of women)

	No attention	Inadequate	Adequate
Indigenous	43.8	12.1	7.9
First Tertile	72.4	42.5	29.9
Second Tertile	17.8	33.4	32.8
Third Tertile	23.4	24.1	37.2
Rural	47.9	25.5	21.6
Urban	15.4	23.3	19.2
Metropolitan	36.7	51.2	59.3

Source: Prepared by the author, on the basis of I. Heredia-Pi and others, "Measuring the adequacy of antenatal health care: a national cross-sectional study in Mexico", *Bulletin of the World Health Organization*, vol. 94, No. 6, 2016 [online] https://doi.org/10.2471/BLT.15.168302.

Although there are no similar studies on the quality of prenatal care in Central American countries, coverage shows certain gaps between rural and urban areas, between the poorest and richest quintile and between Guatemala and the other two countries. These gaps do not exceed ten percentage points (see figure VI.13). The analysis of the vertical gaps arising from different coverage of births attended by specialized health professionals coincides with the greater capacity of the State in Mexico and El Salvador, as opposed to Guatemala and Honduras (see figure VI.14).

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[17]   To classify care as adequate, weight, height, blood pressure, urine and blood must be monitored. Also, vaccination against tetanus must be applied and folic acid and micronutrients must be prescribed.

Figure VI.13
El Salvador, Guatemala and Honduras: prenatal care coverage, several years
(Percentages)

Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Demografía y Salud (ENDESA 2011-2012) de Honduras*, 2013; National Health Institute (INS), *Encuesta Nacional de Salud, ENS 2014*, El Salvador, 2014; and Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/Planning and Programming Secretariat of the Office of the President (SEGEPLAN), *Encuesta Nacional de Salud Materno Infantil, ENSMI 2014-2015*, Guatemala; Ministry of Health/National Institute of Statistics (INE)/ICF International, *ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf; Ministry of Health-National Institute of Health/DIGESTYC/UNICEF, *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador, 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%2020 14%20MICS%20KFR_Spanish.pdf; Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/ ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.

Figure VI.14
El Salvador, Guatemala and Honduras: childbirths attended by specialized health professionals, several years
(Percentages)

Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Demografía y Salud (ENDESA 2011-2012) de Honduras*, 2013; National Health Institute (INS), *Encuesta Nacional de Salud, ENS 2014*, El Salvador, 2014; and Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/Planning and Programming Secretariat of the Office of the President (SEGEPLAN), *Encuesta Nacional de Salud Materno Infantil, ENSMI 2014-2015*, Guatemala; Ministry of Health/National Institute of Statistics (INE)/ICF International, *ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf; Ministry of Health-National Institute of Health/DIGESTYC/UNICEF, *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador, 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%2020 14%20MICS%20KFR_Spanish.pdf; Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/ ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.

Though no equivalent information could be found for Mexico, available data by state suggest that the vertical differences were also smaller. According to the ENSANUT (Shamah-Levy and others, 2020, p. 145, table 5.8.11), of a total of 32 states, 19 had coverage of between 99% and 100% of delivery services attended by health care personnel in 2018. Coverage in eleven states stood between 95% and 98%, so in these states, the space for vertical gaps is very small.

e)   Most chronic malnutrition is associated with inequality

Gaps in chronic malnutrition (a determinant of child mortality) are higher among lower-income strata (quintiles 1 and 2) and significantly higher in Guatemala, followed by Honduras and then by El Salvador and Mexico (see figure VI.15). There was insufficient information to perform a progress analysis. No differences were found between rural and urban areas for the years for which information was available. This suggests that children share the same conditions of vulnerability in both areas. A slight tendency was found for it to be higher among boys than among girls.

Figure VI.15
Selected countries: malnutrition, height by years of age, several years
(Percentages of children under 5 years of age)

Source: Prepared by the author, on the basis of National Institute of Statistics (INE), *Encuesta Nacional de Demografía y Salud (ENDESA 2011-2012) de Honduras*, 2013; National Health Institute (INS), *Encuesta Nacional de Salud, ENS 2014*, El Salvador, 2014; and Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/Planning and Programming Secretariat of the Office of the President (SEGEPLAN), *Encuesta Nacional de Salud Materno Infantil, ENSMI 2014-2015*, Guatemala; Ministry of Health/National Institute of Statistics (INE)/ICF International, *ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras, 2013 [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf; Ministry of Health-National Institute of Health/DIGESTYC/UNICEF, *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador, 2015 [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%2020 14%20MICS%20KFR_Spanish.pdf; Ministry of Public Health and Social Assistance (MSPAS)/National Institute of Statistics (INE)/ ICF International, *Encuesta Nacional de Salud Materno Infantil 2014-2015: informe final*, Guatemala, 2017 [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.
Note: Years are different for each country. 2014 for El Salvador, 2015 for Guatemala and Mexico and 2012 for Honduras. Chronic malnutrition is measured by the proportion of children under 5 y.o. Who are less than two standard deviations below (moderate and severe) the median height for the reference population of the same age.

5.   The effects of intermediate determinants

Education of family members, particularly of the mother, is directly associated with mortality and malnutrition. In a large group of countries, there is an inverse relationship between the percentage of mothers who finish primary school and child malnutrition. The inverse ratio is particularly evident in Guatemala. The other three countries with lower rates of malnutrition have significantly higher levels of primary education among mothers.

Glei, Goldman and Rodríguez (2002) identified a differentiated use of childbirth services in Guatemala. They found that, although they resort to traditional midwives and to health professionals, indigenous women who did not speak Spanish, have little education and enjoy lesser degrees of autonomy within the home tend more to request the services of a midwife, as opposed to health care professionals. Mestizo women with higher levels of education preferred formal health services, especially in communities more exposed to migration. This is probably one of the explanations for the greater malnutrition in Guatemala since prenatal care does not include certain supplements or micronutrients, nor it guarantees optimal breastfeeding after delivery. These factors would be included in the intermediate variables identified by Solar (2010) as social determinants of health.

Cases like this combine structural determinants associated with the ethnic and rural dimensions with intermediate determinants, such as the influence of the family and the community. The situation is aggravated by public health systems that are not suited to the culture of the women they serve, besides being of poor quality and discriminatory. To overcome this situation, efforts have been made to train midwives in Guatemala. The possibilities and limitations of these efforts are illustrated by the experience of Honduras, where large numbers of midwives have received training and are closely monitored by officials of the Ministry of Health.[18]

Indicators on the performance of health systems, one of the most important intermediate variables (Solar, 2010), are still in the initial stage of development. According to WHO and UNICEF (2022), the health system can be disaggregated into its structure and its inputs. The structure includes governance, adaptation to the needs of the population and financial resources. Governance and adaptation need to be assessed according to qualitative criteria (WHO/UNICEF, 2022, p.18), which lies beyond the purpose of this report. The issue of financial resources has been covered in previous sections. Inputs determine the efficiency and effectiveness with which resources are applied. According to WHO, inputs are classified into physical infrastructure, personnel and medicines, which usually generate the highest costs, and information systems and digital technology. Certain indicators and gaps can be estimated as a first proxy for infrastructure quality. These indicators include water, sanitation and hygiene (WASH) facilities, as well vaccines, medicines and other medical products.

In particular, the relationship between access to WASH facilities and the spread of various diseases has been well documented. El Salvador, Guatemala and Honduras share a low proportion of the population with access to sewage. Access is particularly low levels in rural areas, as opposed to significantly higher levels of sewage coverage in Mexico. This may be associated with less favourable rural health conditions in the countries of Central America.

A useful indicator of the efficiency of health systems is the percentage of generic drugs available in the public sector. However, there are scant up-to-date data for Central American countries. Mexico, which in 2009 had 88.8% of generic drugs available in the public sector, was among the large Latin American countries with the lowest prices for generic medicines (Alvarez and González, 2020). This suggests a higher level of efficiency of the latter. Another indicator is the use of vaccines. The aggregate immunization index (which consists of vaccination against influenza, hepatitis, polio, diphtheria-tetanus-pertussis, measles and Calmette-Guérin bacillus) allows us to conclude that, in the four countries under study, there was no progress. Instead, some setback has taken place in coverage of vaccines between 2000 and 2019 since it stands below the 45-degree line equates to those years.

The recent experience with the COVID-19 vaccine is consistent with the distinction that has emerged between the generally greater capacity to provide health and education services by Mexico and El Salvador than by Honduras and Guatemala, on the other (see figure VI.16). This is shown by the lower vaccination coverage (first vaccination) in Guatemala, which in 2021 stood below the world average. In Honduras, though coverage is low, it is equivalent to the world average. Mexico and El Salvador, on the other hand, were clearly above average.

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[18] Prata and others (2010) refer to the limitations of traditional providers of childbirth assistance (midwives) often mentioned by the specialized literature. Glej and others (2002) point out to a rising tendency to turn to health professionals.

Figure VI.16
Selected countries and world average: COVID-19 vaccination, 2021
(Population percentage)
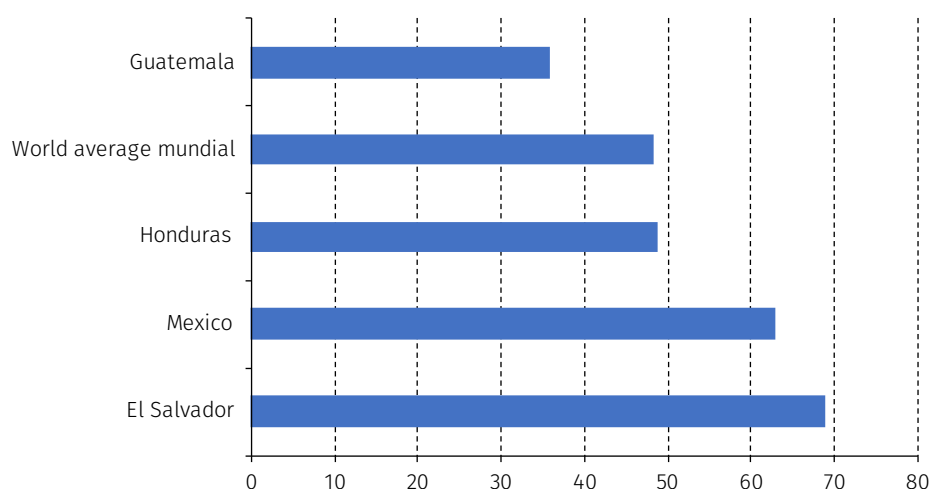
Source: Prepared by the author, on the basis of Github data, Covid-19 vaccination locations [online] https://github.com/owid/covid-19-data/tree/master/public/data/vaccinations/locations.csv; Github Database, Covid-19 Vaccinations [online] https://github.com/owid/covid-19-data/tree/master/public/data/vaccinations; E. Mathieu and others, "A global database of COVID-19 vaccinations", *Natural Human Behavior*, No. 5, 2021, pp. 947–953 [online] https://doi.org/10.1038/s41562-021-01122-8.

6.   The COVID-19 pandemic and the increased magnitude of structural, horizontal and vertical gaps

COVID-19 care required an increase in per-person public spending on health. The increase came immediately in El Salvador and Honduras, but not in Guatemala and Mexico (see figure VI.17). Only in 2021 was there a generalized increase in spending per person, which was especially high in Honduras.

Figure VI.17
Selected countries: evolution of per capita health spending, 2019, 2020 and 2021
(Current dollars)
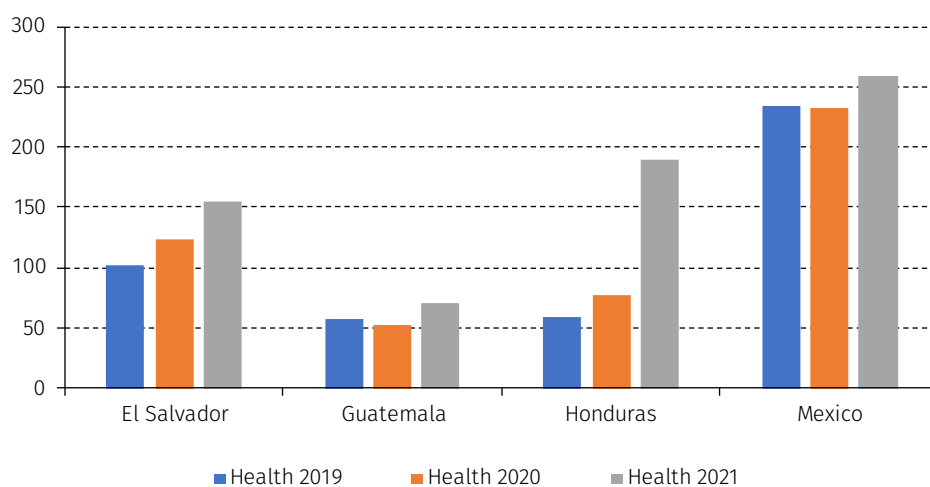
Source: Prepared by the author, on the basis of International Monetary Fund (IMF), World Health Organization (WHO), World Bank and web pages of the ministries or secretariats of finance or finance in El Salvador, Guatemala, Honduras and Mexico.

In the four countries, the increase had a different origin than that experienced between 2000 and 2019, when most growth came from per capita GDP growth. Decomposing the most recent increase according to the methodology of Gupta (1993) and Chao and others (2018), it is observed that the main change occurred as a result of a reallocation of health spending within the budgets of Central American countries, especially Honduras and Guatemala. More health spending came together with a heftier total budget in El Salvador and, especially, in Mexico. More resources for health within the budget, which before (between 2000 and 2019) had been significant only in Guatemala, were now observed in all countries, to a greater extent in Honduras and less so in Mexico. This shows that there is some margin to serve priority sectors, such as health, through budgetary reallocations.

Figure VI.18
Selected countries: effect on per capita health expenditures of an increase in income, education expenditures and total expenditures, 2019–2021
(Percentages)
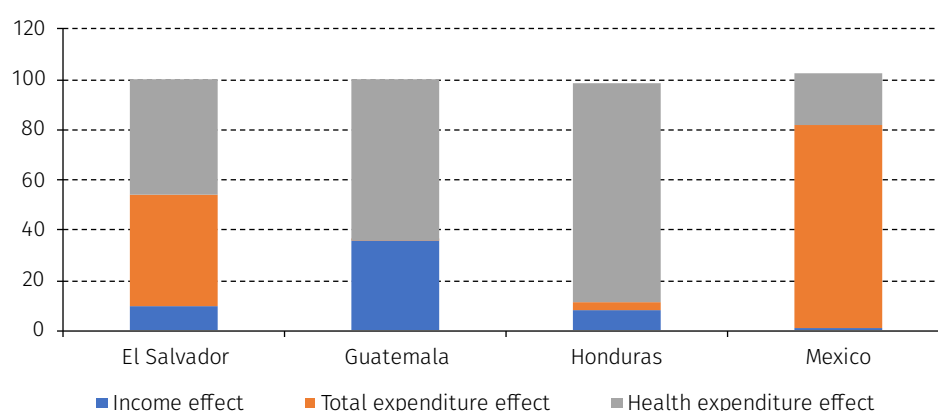
Source: Prepared by the author, on the basis of International Monetary Fund (IMF), World Health Organization (WHO), World Bank and web pages of the ministries or secretariats of finance or finance in El Salvador, Guatemala, Honduras and Mexico.

When comparing 2019 and 2021, it can be seen that per capita spending on education did not decline anywhere but in Guatemala, the country with the greatest fiscal restrictions (see figure VI.19). When comparing those two years, spending remained virtually constant in Mexico (although it fell in 2020) and in Honduras, while it increased in El Salvador, probably as a result of purchases of computers for students, which were meant to promote virtual education during the lockdown caused by the pandemic.

Figure VI.19
Selected countries: evolution of education spending per capita, 2019, 2020 and 2021
(Current dollars)
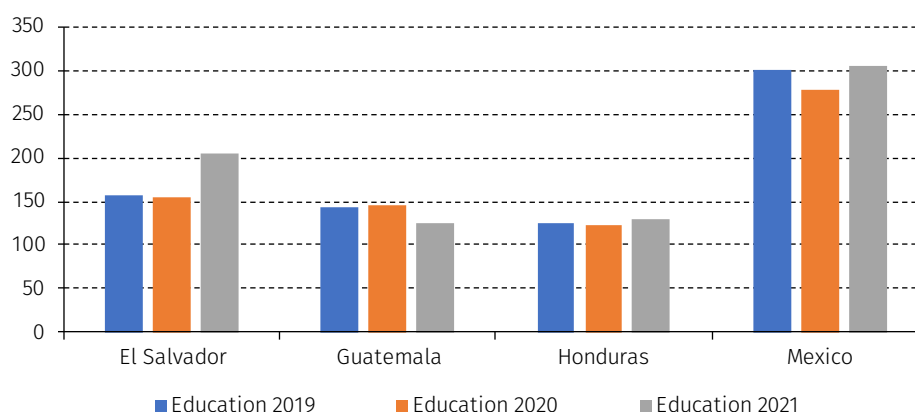
Source: Prepared by the author, on the basis of International Monetary Fund (IMF), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Bank and web pages of finance ministries.

D.   Conclusions

This study reached three major conclusions. First, it is important to mobilize more resources to serve education and health. Second, to achieve a balance between urban and rural areas and between territories, a progressive reorientation of government expenditure, both on health and education, must be ensured. Third, the foregoing must be complemented with other measures that simultaneously increase the impact of public spending, taking into account circumstances whose importance varies in each country —from the education of parents to improvements in the management of health and safety systems or investments in sanitation and hygiene infrastructure.

Considerable effort is required. Despite significant progress in education coverage in the 21st century, public spending in El Salvador, Guatemala, Honduras and Mexico has not been able to avoid a regressive trajectory in secondary education, especially in the second cycle. Significant gaps persist between students from higher and lower-income families, and between urban and rural areas, especially in the two secondary cycles in Guatemala and Honduras and the upper secondary schooling in El Salvador and Mexico.

In the countries under study, learning gaps are more significant than coverage gaps. Gaps have been greater when moving from lower educational cycles (second and third grade of primary school) to higher ones (complete primary school). They are especially wide for secondary school, where gaps in reading and math proficiency are wider, more so in Central American countries than in Mexico. Learning gaps between rural and urban areas and between low-income and high-income families have also been persistent.

A basic rule of thumb for spending on education is to ensure that it contributes to a progressive trajectory of increased coverage in secondary school and greater learning in general. Any resources must focus on the lowest income quintiles and the most unprotected rural areas. Especially important are proven interventions to ensure effective student learning. These interventions include ensuring a low student/teacher ratio, building new schools, serving elite public schools, promoting supplementary tutoring tailored for students and ensuring that teachers give effective feedback to students about test results. It is also necessary to open spaces for creativity. Conditional cash transfers for low-income families can be instrumental in increasing the demand for education and, consequently, its coverage. At the same time, progress should be made regarding the education of parents, the inadequacies of educational facilities, trade union organizations that have managed to condition teacher selection, high rates of repetition and a significant rate of absenteeism. All these factors have reduced or neutralized the effect that public spending could have on learning.

All four countries have already achieved the main health goals set by SDG 2, and Mexico reached them several years before Central America. However, health spending has had a predominantly regressive impact, as it has not favoured the most vulnerable socio-economic strata, especially in the Central American countries, where it has had a pro-urban bias, as opposed to Mexico.

The redistributive weakness of public spending on health led to a pattern of progress that made it possible to meet certain SDG targets at the national level but often with deep vertical gaps, which are larger in Guatemala and Honduras than in Mexico and El Salvador. This regressive effect has been reinforced by the large out-of-pocket expenses made in all four countries. During this century, only in El Salvador has public spending increased, and out-of-pocket decreased. This contrasts Guatemala and Honduras, where private spending on health has been higher than public spending.

Apart from the mobilization of additional resources to displace out-of-pocket spending by government expenditures, a forceful strategy is required to ensure that health spending helps to reach the SDGs by reducing the pro-urban bias in Central American countries. The reduction of malnutrition should be incorporated as part of the health strategy, which should also address other determinants of the impact of public spending, such as the limited education of mothers, health service paradigms that have not been adjusted to cultural differences, weaknesses of infrastructure to ensure access to water, sanitation and hygiene (corresponding to SDG 6) and the management capacities of health systems, which have been better in El Salvador and Mexico than in Honduras and Guatemala.

The incidence of these intermediate variables, as well as the existence of structural gaps (by area, ethnicity, gender and socio-economic situation) of varying depth, imply that it is not right to assume a mechanical causality relationship between public spending and results in health and education. The relationship obviously exists, and part of the future challenge is to ensure it is greater.

A more detailed analysis of technical and university education, especially in the field of digital communication technology, is pending. Statistics in this area are particularly deficient. This leads to a broader recommendation: SDGs have stimulated significant progress in homogeneous statistics. However, more information is required to analyse the distribution of spending and the progress of SDG targets related to health and education in terms of quintiles, urban and rural areas, gender and ethnicity. It would be particularly important if the SDG targets were incorporated into the national budgets of the four countries in the form of government expenses whose results were subject to yearly monitoring and evaluation.

Finally, the COVID-19 crisis led to serious setbacks in education, which were greater in vulnerable sectors. This reinforces the idea of using structural gaps, and not gross national income, as the reference for allocating international cooperation since, in a crisis, changes in gaps, especially between vulnerable strata, give a better picture of the situation than changes in gross national income.

Bibliography

Adelman, M. and M. Székely (2016), "School dropout in Central America an overview of trends, causes, consequences, and promising interventions", *World Bank Policy Research Working Paper*, No. 7561, World Bank.

Akmal, M., L. Crawfurd and S. Hares (2019), "Low-Cost Private Schools: What Have We Learned in the Five Years Since the DFID Rigorous Review", Center for Global Development [online] https://www.cgdev.org/blog/low-cost-private-schools-what-have-we-learned-five-years-dfid-rigorous-review.

Alvarez, R. and A. González (2020), "A comparative analysis of medicine prices in Latin America", *CEPAL* Review No. 130, Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), April.

Amar, A., D. Vega and A. Erbes (2016), "El enfoque de brechas estructurales de desarrollo y los Objetivos de Desarrollo Sostenible aplicado al análisis de las provincias argentinas: documento metodológico", *serie Estudios y Perspectivas*, No. 48, Buenos Aires Office, Economic Commission for Latin America and the Caribbean (ECLAC).

Ashley, L. D. and others (2014), "The role and impact of private schools in developing countries: a rigorous review of the evidence", *Final Report: Education Rigorous Literature Review*, London, Department for International Development.

Bokhari, F. A. S., Y. Gai and P. Gottret (2007), "Government health expenditures and health outcomes", *Health Economics*, vol. 16, No. 3 [online] https://onlinelibrary.wiley.com/doi/10.1002/hec.1157.

Chao, F. and others (2018), "Web appendix, national and regional under-5 mortality rate by economic status for low-income and middle-income countries: a systematic assessment", *The Lancet Global Health*, vol. 6, No. 5.

Chaudhury, N. and others (2006), "Missing in action: teacher and health worker absence in developing countries", *Journal of Economic Perspectives*, vol. 20, No. 1.

Cutler, D., A. Deaton and A. Lleras-Muney (2006), "The determinants of mortality", *Working Paper*, No. 11963, National Bureau of Economic Research [online] http://www.nber.org/papers/w11963.

Das Gupta, P. (1993), *Standardization and Decomposition of Rates: A User's Manual*, U.S. Bureau of the Census, Current Population Reports, Series P23-186, Washington, D.C., U.S. Government Printing Office.

Diderichsen, F. and others (2012), "Health Inequality - determinants and policies", *Scandinavian Journal of Public Health,* vol. 40, No. 8.

Fan, V. and W. Savedoff (2014), "The health financing transition: a conceptual framework and empirical evidence", *CGD Working Paper 358*, Washington, D.C., Center for Global Development.

Filmer, D. and L. Pritchett (1999), "The impact of public spending on health: ¿does money matter?", *Social Science & Medicine*, vol. 49, No. 10.

French-Davis, R. (2019), "Osvaldo Sunkel y el desarrollo o crecimiento incluyente", *Del estructuralismo al neoestructuralismo: la travesía intelectual de Osvaldo Sunkel* (LC/PUB.2019/9), A. Bárcena and M. Torres (eds.), Santiago, Economic Commission for Latina America and the Caribbean (ECLAC).

Gaspar, V. and others (eds.) (2019), "Fiscal policy and development: human, social, and physical investments for the SDGs", *Staff Discussion Notes* (SDN/19/03), Washington, D.C., International Monetary Fund (IMF), January.

Gaudin, Y. and R. Pareyón (2020) "Brechas estructurales en América Latina y el Caribe: una perspectiva conceptual-metodológica", *Documentos de Proyectos* (LC/TS.2020/139-LC/MEX/TS.2020/36), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Github (n/da), Covid-19 data vaccinations locations [online] https://github.com/owid/covid-19-data/tree/master/public/data/vaccinations/locations.csv.

_____(n/db), Covid-19 data vaccinations [online database] https://github.com/owid/covid-19-data/tree/master/public/data/vaccinations.

Glei, D., N. Goldman and G. Rodríguez (2002), "Utilization of care during pregnancy in rural Guatemala: does obstetrical need matter", *Working Paper Series*, No. 2002-01, Princeton, N.J., Office of Population Research, Princeton University.

Glewwe, P. and K. Muralidharan (2015), "Improving school education outcomes in developing countries: evidence, knowledge gaps, and policy implications", *Serie RISE Working Paper*, vol. 15/001, IIEP Learning Portal, United Nations Educational, Scientific and Cultural Organization (UNESCO) [online] https://learningportal.iiep.unesco.org/en/library/improving-school-education-outcomes-in-developing-countries-evidence-knowledge-gaps-and.

Glewwe, P. and others (2021) "School Resources and Educational Outcomes in Developing Countries", cap. 9, *The Routledge Handbook of the Economics of Education*, Routledge [online] https://www.taylorfrancis.com/chapters/edit/10.4324/9780429202520-10/school-resources-educational-outcomes-developing-countries-paul-glewwe-celestine-siameh-bixuan-sun-suzanne-wisniewski.

Hamal, M. and others (2020), "Social determinants of maternal health: a scoping review of factors influencing maternal mortality and maternal health service use in India", *Public Health Reviews*, vol. 41, No. 13 [online] https://publichealthreviews.biomedcentral.com/articles/10.1186/s40985-020-00125-6.

Hanif, N. (2021), "Taxation and the Sustainable Development Goals", United Nations Committee of Experts on International Cooperation in Tax Matters.

Heredia-Pi, I. and others (2016), "Measuring the adequacy of antenatal health care: a national cross-sectional study in Mexico", *Bulletin of the World Health Organization*, vol. 94, No. 6 [online] https://doi.org/10.2471/BLT.15.168302.

INE (National Institute of Statistics), *Encuesta Nacional de Empleo e Ingresos 1-2019* [online] https://www.ine.gob.gt/encuesta-nacional-de-empleo-e-ingresos/.

Longhi, F. and A. del Castillo (2017), "Mortalidad infantil por desnutrición y condiciones de pobreza en Tucumán (Argentina): magnitudes, manifestaciones espaciales y acciones familiares en los primeros años del siglo XXI", *Papeles de Geografía*, No. 63 [online] http://dx.doi.org/10.6018/geografia/2017/284351.

Lupano, J. A. (2021), "Propuesta metodológica para identificar, caracterizar y medir brechas estructurales en América Latina y el Caribe", *Documentos de Proyectos* (LC/TS.2021/85-LC/MEX/TS.2021/15), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Mathieu, E. and others (2021), "A global database of COVID-19 vaccinations", *Natural Human Behaviour*, No. 5 [online] https://doi.org/10.1038/s41562-021-01122-8.

MINSAL-INS/DIGESTYC/UNICEF (Ministry of Health-National Health Institute/Department of Statistics and Censuses/United Nations Childrens´s Fund) (2015), *Encuesta Nacional de Salud (ENS) 2014 - Encuesta de Indicadores Múltiples por Conglomerados 2014, resultados principales*, San Salvador, El Salvador [online] https://mics-surveys-prod.s3.amazonaws.com/MICS5/Latin%20America%20and%20Caribbean/El%20Salvador/2014/Key%20findings/El%20Salvador%202014%20MICS%20KFR_Spanish.pdf.

Moreno-Serra, R. and P. Smith (2015), "Broader health coverage is good for the nation's health: evidence from country level panel data", *Journal of the Royal Statistical Society*, No. 178.

MSPAS/INE/ICF International (Ministry of Public Health and Social Assistant/National Institute of Statistics/ICF International) (2017), *Encuesta Nacional de Salud Materno Infantil 2014-2015*: *informe final*, Guatemala [online] https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf.

Navid, H. (2021), "Taxation and the Sustainable Development Goals", Presentation for the United Nations Committee of Experts on International Cooperation in Tax Matters [online] https://prezi.com/view/DDFAOuQsHX3kGj5LkD1P/.

Nixon, J. and P. Ulmann (2006), "The relationship between health care expenditure and health outcomes: evidence and caveats for a causal link", *European Journal of Health Economics*, vol. 7 [online] https://doi.org/10.1007/s10198-005-0336-8.

OECD (Organisation for Economic Co-operation and Development) (2018), "PISA para el desarrollo: resultados en Foco, *PISA en foco*, No. 91, Paris [online] https://www.oecd.org/pisa/pisa-for-development/PISA_D_Resultados_en_Foco.pdf.

Prata, N. and others (2010), "Maternal mortality in developing countries: challenges in scaling-up priority interventions", *Women's Health*, vol. 6, No. 2.

Rajkumar, A. S. and V. Swaroop (2002), "Public spending and outcomes does governance matter?", *Policy Research Working Paper*, No. 2840, Washington, D.C., World Bank.

Ross Schneider, B. (2021), "Teacher unions, political machines, and the thorny politics of education reform in Latin America", *Politics & Society,* vol. 50, 1 33, [online] https://doi.org/10.1177/00323292211002788.

Shamah-Levy T. and others (2020), *Encuesta Nacional de Salud y Nutrición 2018-19: resultados nacionales*, Cuernavaca, Mexico, Instituto Nacional de Salud Pública [online] https://smep.org.mx/wp-content/uploads/2021/01/20201108_ensanut_nacionales_2018.pdf.

Signal, L. and others (2008), *The Health Equity Assessment Tool: A user's guide*, Wellington, New Zealand, Ministry of Healt [online] https://www.health.govt.nz/system/files/documents/publications/health-equity-assessment-tool-guide.pdf.

Smith, W. and D. Joshi (2016), "Public vs. private schooling as a route to universal basic education: a comparison of China and India", *International Journal of Educational Development*, vol. 46 [online] https://ink.library.smu.edu.sg/soss_research/2279.

Solar, O. I. (2010), "A conceptual framework for action on the social determinants of health", *Social Determinants of Health Discussion, Paper 2 (Policy and Practice)*, Geneva, World Health Organization (WHO).

Sommer, J. (2022), "Accountable government spending: a cross-national analysis of child mortality in developing nations", *International Journal of Health Services*, vol. 52, No. 1 [online] https://doi.org/10.1177/0020731420960972.

SS/INE/ICF International (Ministry of Health/National Institute of Statistics/ICF International) (2013), *Honduras ENDESA: Encuesta Nacional de Salud y Demografía 2011-2012: informe resumen*, Tegucigalpa, Honduras [online] https://www.ine.gob.hn/images/Productos%20ine/endesa/Informe%20Resumen%20ENDESA.pdf.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (n/d), UIS.Stat Data Centre [online database] http://data.uis.unesco.org.

Vegas, E. and Ch. Coffin (2015), "When education expenditure matters: an empirical analysis of recent international data", *Comparative Education Review*, vol. 59, No. 2, The University of Chicago Press, May.

WHO/UNICEF (World Health Organization/United Nations Children´s Fund) (2022), *Primary Health Care Measurement Framework and Indicators: Monitoring Health Systems Through a Primary Health Care Lens*, Geneva.

World Bank (n/d), Free database, "GDP per capita, PPP (constant 2017 international $)" [online] https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD.

_____(2022), *Positioning Nutrition within Universal Health coverage, Optimizing Health Financing Levers*, Health, Nutrition, and Population (HNP) Discussion Paper, Washington D.C.

_____(2018), *World Development Report 2018: Learning to Realize Education's Promise*, Washington, D.C. [online] https://doi.org/10.1596/978-1-4648-1096-1.

Chapter VII
Access and quality gaps: a challenge for educational transformation in Guatemala

Evelyn Jacir de Lovo

Introduction

The inequalities of access to education and inequitable education quality in Central America are a structural challenge that, far from being addressed, deepened during the COVID-19 pandemic. The education sector has not been a priority in terms of investment, budget or public policy aimed at reducing the impacts, gaps and delays due to COVID-19. This study seeks to identify the lack of educational access and quality gaps, which mainly affect the population in vulnerable situations, particularly persons in rural areas, poverty and Indigenous Peoples. The study also aims at detecting the factors or barriers that generate gaps in Guatemala. This study identifies challenges and proposes policies and lines of action to reduce those gaps and advance in the construction of a more inclusive education system to transform the opportunities of these populations and generate greater equality and development.

This study draws the new rurality concept from the paper published by Romero (2022) for the joint ECLAC, IFAD and IDIES-RIMISP project (Gaudin, 2019; Romero and others, 2020), to analyze territorial access and quality indicators for education in Guatemala. The author identified functional or intermediate territories between rural and urban areas, thus moving beyond the dual approach that defines rural areas as an agricultural space without access to services and disconnected from urban areas. These functional or intermediate territories have urban and rural characteristics and are highly interconnected, heterogeneous spaces. Guatemala's municipalities were classified into five gradients: (i) Gradient 1: Rural (comprised of 99 municipalities, 26% of the total population); (ii) Gradient 2: Rural-urban (145 municipalities, 30.8% of total population); (iii) Gradient 3: Urban-rural (72 municipalities, 21.2% of total population); (iv) Gradient 4: Urban (19 municipalities, 8.4% of total population); and (v) Gradient 5: Metropolitan (5 municipalities, which constitute the metropolitan area of Guatemala City, 13.7% of total population).

This study used the databases available as of May 2022, among others, the 2020 Formal education database (4.123.459 students) and the 2019 Achievement Tests carried out by the Ministry of Education. Among the aspects investigated to understand the determinants of educational results were ethnicity, gender, rurality and type of school. The study also considered other variables, such as access to utilities like water and electricity; housing conditions; socioeconomic circumstances, for instance, employment status and parental level of education; and access to ICT. A binary logistic regression with two categories, achievement and non-achievement, was run to analyze the factors affecting educational achievement in mathematics and reading. To develop the econometric regression, the dependent variables were "no achievement in mathematics" and "no achievement in reading". The study hypothesizes that access to education and educational attainment are lower in the most rural gradients, among populations in situations of poverty or vulnerability, among Indigenous Peoples and among persons whose parents have lower educational levels.

A.   Educational gaps in Guatemala

1.   Gaps in access to education

Despite efforts made, significant gaps in access to the effective enjoyment of the right to education persist in Guatemala, particularly for rural populations and Indigenous Peoples. With the exception of primary education, access gaps are significantly high and require widespread commitment, investment, and political will to overcome them. This study confirms the working hypothesis that access to education and educational attainment is lower in the more rural gradients, among populations in situations of poverty or vulnerability, among Indigenous Peoples and among persons whose parents have low educational levels.

In Guatemala, there is limited public sector supply of education at the lower and upper secondary education levels, while the weight of private sector education offering at these levels is the greatest in Central America. Compared to Honduras, Guatemala doubles the weight of the private sector at these levels, and multiplies the situation in Costa Rica by 7 and 10 times, respectively.[1] This indicates a significant access barrier for low-income students who, having managed to graduate from the sixth grade, wish to continue studying (see figure VII.1).
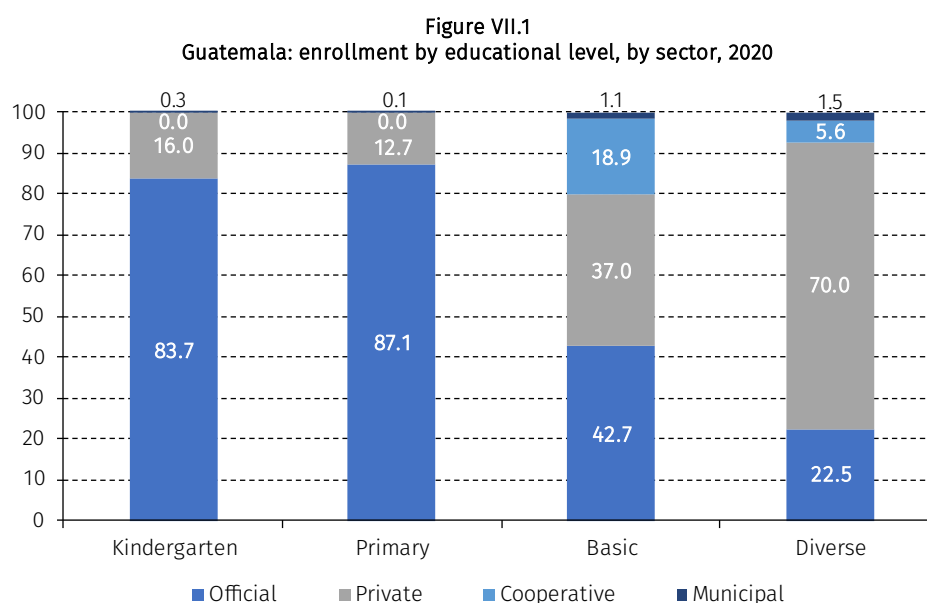
Figure VII.1
Guatemala: enrollment by educational level, by sector, 2020

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base education formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021].

Although most students are enrolled in public schools (71.9%), this percentage is concentrated mainly in the pre-primary and primary levels, and enrollment concentrates in the more rural municipalities (first three gradients).[2] The private sector (23.4% of all students) concentrates on the lower and upper secondary levels, and its students come from more urban municipalities (see figure VII.2).

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[1]   UIS UNESCO data include the cooperative and municipal sectors within the private sector.
[2]   Establishments included for pre-primary and upper-secondary levels, consider whether the at least one of all the grades of the educational level is imparted.

Figure VII.2
Guatemala: enrollment by gradient, by sector, 2020

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021]; Ministry of Education of Guatemala (MINEDUC), "Base de establecimientos" [online] https://www.mineduc.gob.gt/BUSCAESTABLECIMIENTO_GE, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

More than a third of children and youth (4 to 18 years old) in the three rural gradients (rural, rural-urban, urban-rural) do not attend school: 39.2%, 33.8% and 22% of the school-age population, respectively. Many of them are Indigenous, which points out the dire challenges of complying with SDG4 targets. Indigenous Peoples, who represent 44% of the total population, only constitute 34% of the total enrollment and are concentrated in the most rural gradients. In the first gradient, they are the majority and represent 58% of the total enrollment. This proportion decreases as the territory turns more urban (see figure VII.3).

Figure VII.3
Guatemala: enrollment by gradient and ethnicity, 2020
(Percentages)
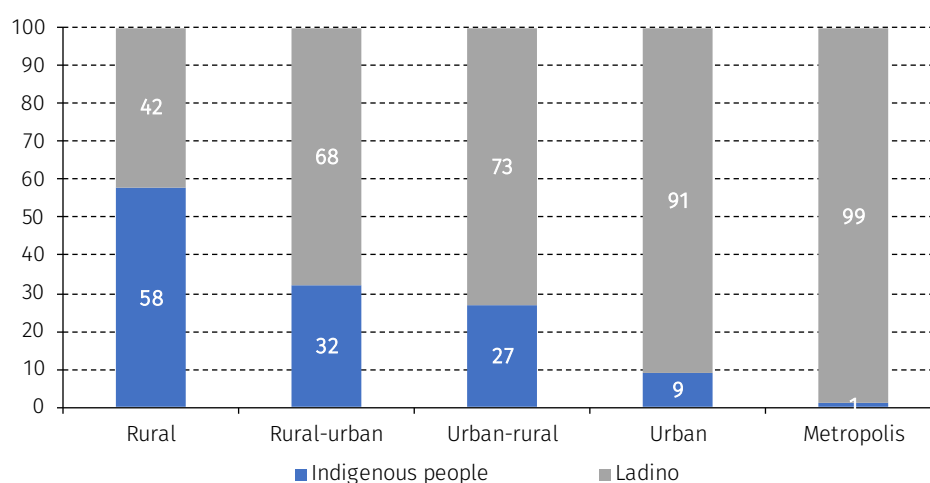
Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021]; Ministry of Education of Guatemala (MINEDUC), "Base de establecimientos" [online] https://www.mineduc.gob.gt/BUSCAESTABLECIMIENTO_GE, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

In Guatemala, it is a right and a duty for children to attend school from pre-primary. However, as shown by the trajectory of students by simple age,[3] children enter the education system gradually and late. Access to initial education is minimal, and children first enter school at age 5 or 6. Maximum coverage occurs at age 7, when almost 100% of children attend school. The trend is for children to stay in the system until age 12. However, a large proportion drops out after age 13. For ages 16, 17 and 18, only 54.1%, 43.7% and 26.5% of young people, respectively, continue studying. The behavior of the net rate of the first three gradients is very similar and presents a wide gap in the 24 most urban municipalities (gradients 4 and 5) (see figure VII.4).

Figure VII.4
Guatemala: net schooling rate by simple age
(Percentages)
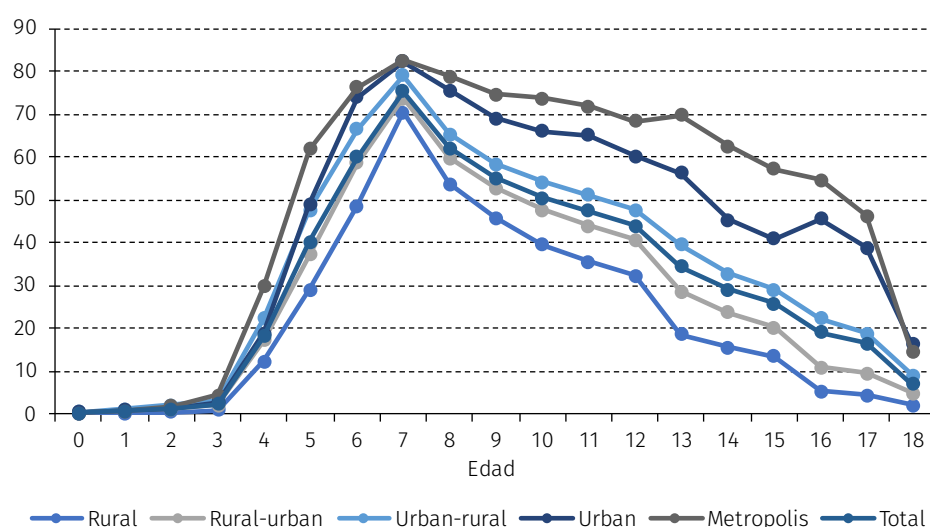
Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021]; Ministry of Education of Guatemala (MINEDUC), "Base de establecimientos" [online] https://www.mineduc.gob.gt/BUSCAESTABLECIMIENTO_GE; W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022, and Guatemala's National Institute of Statistics (INE), "Estimaciones y proyecciones de la población total según sexo y edad, 2015-2030" [online] https://www.ine.gob.gt/ine/proyecciones/.

The net coverage rate[4] of all levels practically stagnated between 2015 and 2020. The level whose net coverage grew most is pre-primary, which did so modestly at 3.3% in the whole period. This rate, observed between 2015 and 2018, dropped in the last two years. In terms of lower and upper secondary education, total growth was about 2.1% and 1.8%, respectively, during the period under analysis. At this growth rate, it would take roughly 100 years for lower secondary education to achieve universal coverage, and 200 years for upper-secondary education. Because Guatemala's demographic bonus is blooming, the drop in initial enrollment at the pre-primary, lower and upper secondary levels is worrisome. Lower secondary education enrollment fell by 6.8% between 2015 and 2020. In pre-primary and upper secondary levels, it increased from 2015 to 2018 but decreased after 2018.

Net coverage rates by gradient show wide gaps, particularly at the lower and upper secondary levels. At the latter level, the net coverage rate of the most urban municipalities (gradients 4 and 5) is eight times that of the most rural gradient. In lower secondary school, the net rate of the metropolitan gradient more than triples that of the most rural one, while in pre-primary schooling, it multiplies by 1.7 (see figure VII.5). Net rates above 100 could be due to the migration of rural students to nearby, more urban municipalities.

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[3]   The net rate of coverage by simple ages is the ratio between the total number of students of a given age enrolled in the corresponding grade and the total population of that age.

[4]   The ratio between students of appropriate age for a level and the total population of that age.

Figure VII.5
Guatemala: net coverage rates by educational level and gradient, 2020
(Percentages)

A setback in completion rates[5] and learning achievements was observed too. In 2020, only 87.6% of children finished primary school, 63.8% completed lower secondary level, and 48.5% finished upper secondary level. Only 13.6% of students who finished high school achieved floor marks in mathematics, while 37% achieved minimum reading levels (MINEDUC, 2021a). The Regional Comparative and Explanatory Study (ERCE, 2019) shows a significant decrease in the primary level completion rate[6] between 2013 and 2019. The study also places Guatemala below the regional achievement average in all areas and grades. When comparing the scores with the TERCE 2013 measurement, a substantial decrease is observed in all areas, mainly in reading and science (UNESCO, 2021b). Rural gradients are lagging, and inequality persists. About a quarter of children in gradients 1 and 2 fail to complete primary school, while lower and upper secondary levels are almost a privilege for the first gradient, in which only approximately 39.3% and 16%, respectively, can conclude it (see figure VII.6).

Figure VII.6
Guatemala: completion rates by educational level and gradient, 2020
(Percentages)

Note: To enter "diversified" schooling, it is necessary to be 17 y.o and have passed the grade.

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[5]   Total number of students entering the last grade of an education cycle (primary, lower or upper secondary education), regardless of age, expressed as a proportion of the total population of age to enter that grade.

[6]   In this document, the completion rate of an educational cycle is calculated according to the ERCE definition: initial enrollment of the last grade of an educational cycle (primary, lower and upper secondary) regardless of age, expressed as a proportion of the total population of age to enter that grade.

2.   Educational efficiency gaps

Repeating grades[7] is more common in early schooling and for the more rural gradients. By gradient, the repetition rate is higher as municipalities become more rural. In gradient 1, more than a fifth of children enrolled in first grade are repeaters, and so are 15.4% of students enrolled in second grade. On the other end, although repetition rates remain high in the metropolitan area, mainly in the first grade (6.6%), they are still much lower than in rural areas (see table VII.1).

Table VII.1
Guatemala: repetition rate in primary school by grade and gradient, 2020
(Percentages)

Grade	Rural	Rural-Urban	Urban-Rural	Urban	Metropolis
First	22.6	19.2	16.5	10.4	6.6
Second	15.4	11.6	9.7	5.8	3.5
Third	11.1	8.4	7.5	5.6	3.0
Fourth	7.8	5.9	5.5	4.5	2.7
Fifth	5.3	3.8	3.8	3.1	2.2
Sixth	1.3	1.1	1.2	1.3	0.9

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021]; Ministry of Education of Guatemala (MINEDUC) "Base de establecimientos" [online] https://www.mineduc.gob.gt/BUSCAESTABLECIMIENTO_GE, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

After two years of distance education as a consequence of the pandemic, lags and losses in education have increased, although this does not necessarily translate into repetition due to the elimination of requirements such as passing with 60 points or more. This will surely be a daunting obstacle to the advancement of children, teenagers and young adults. For this reason, MINEDUC launched a learning improvement strategy based on tutoring, in March 2022. The tutorials target students who, according to the diagnostic evaluation results, failed to reach the expected skills established in the National Basic Curriculum. They focus on children enrolled in the second, third and fourth grades of primary school. The tutorials will be taught by students in the last grade of upper secondary school, students of the Academic Program of Professional Development and volunteers who want to provide civic service (*Prensa Libre*, 2022, p. 8). Considering that the more rural sectors have very few graduates, it is necessary to implement other ways of accompanying children on their way to recovering the learning not achieved in the years of the pandemic. Other institutional interventions must be implemented and maintained over time to address the structural challenge of high repetition rates in Guatemala.

High repetition and late enrollment generate high rates of extra-age[8] from primary school. These rates increase significantly as students make their way up the education system. If over-age and extra-age rates are added,[9] students one or more years behind the grade they should be in represent 30% in primary, 41% in lower secondary and 42% in upper secondary. Over-age and extra-age are a cause and a consequence of high repetition and drop-out rates. This situation can generate longer delays in the learning processes, as parents stop supporting their children's schooling. This happens mainly among populations in vulnerable situations, who have fewer economic resources and for whom the government provides fewer options to continue studying at the lower and upper secondary levels.

For all levels, the more rural the population is, the higher the over-age rate. Extra-age shows a similar but less pronounced behavior, except for lower and upper secondary, where it is higher for the metropolitan area of Guatemala City (gradient 5). Repetition in primary school increases the more rural a territory is. However, for the lower and upper secondary, it is the other way around. It is important to look into these atypical behaviors (see figure VII.7).

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[7]   Ratio of students who are repeating a specific grade divided by all students enrolled for that grade, during a given year.
[8]   The ratio of students who are two or more years behind their grade and the total number of students in that grade.
[9]   The ratio of students who are one year behind their grade and the total number of students in that grade.

Figure VII.7
Guatemala: efficiency indicators by educational level and gradient, 2020
(Percentages)

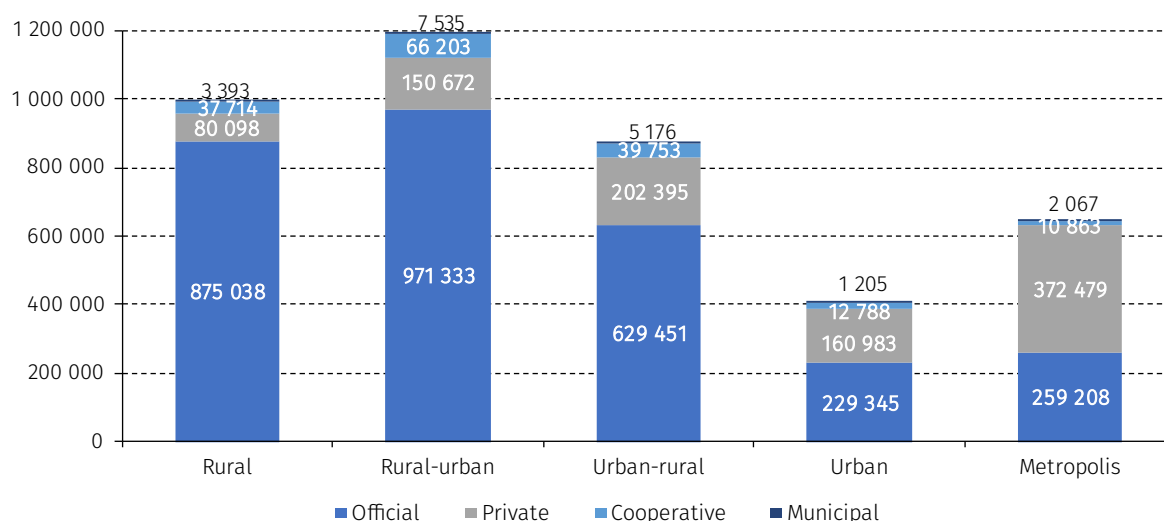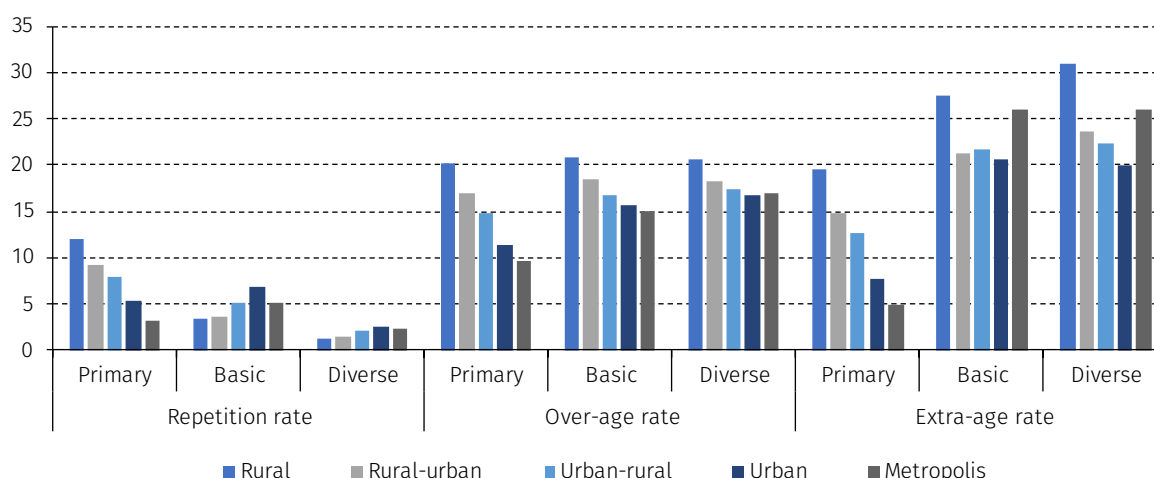

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [seen on: April 2021]; Ministry of Education of Guatemala (MINEDUC) "Base de establecimientos" [online] https://www.mineduc.gob.gt/BUSCAESTABLECIMIENTO_GE, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

Drop-out[10] and school failure[11] are most common at the highest levels of the education system, as shown in table VII.2. Ramírez and Viteri (2019) point out that:

"the educational paths of children and young people in Mesoamerica are like a funnel: many students start school, few of them finish, and those who learn are even fewer… Those who are excluded, either because they do not attend school or because they do not learn when they do, tend to be the most vulnerable children and young people: those who live in poverty, in rural areas and are of Indigenous descent… Multiple filters operate in this exclusion funnel, especially poverty and violence. However, a filter that seems inexcusable is that students drop out of school because they do not learn. Poor performance and a lack of interest in studies are the main reasons why young people stop going to school… Regardless of whether they go to school or not, the vast majority of young people (86%) do not acquire the minimum competencies necessary to contribute to their own well-being and enhance the development of the region" (pp. 1 and 2).

Table VII.2
Guatemala: efficiency indicators, 2020
(Percentages)

Item	Primary	Basic	Diversified
Repetition rate	8.8	4.6	2.1
Drop-out rate	1.4	4.6	5.5
School failure	3.1	17.3	17.5
Over-age rate	16.2	17.4	17.6
Extra-age rate	14.1	23.4	24.0

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021].

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10   The dropout rate is the ratio between students who drop out of a school grade and the students who started it.
11   The ratio between the students who do not pass a school grade (including dropouts), and the number of students who started it.

3.   Quality gaps in education

The already low level of educational achievement still declines. According to the National System of Educational Indicators, the achievements and non-achievements of students are associated with the probabilities of educational progress. "Achievements" means that a student possesses the minimum expected skills at the end of a grade (achievement). The opposite situation is "non-achievement". Figure VII.8 shows low and decreasing levels of math and reading achievement in the 2006-2019 period.

Figure VII.8
Guatemala: achievements in reading and mathematics, last-grade upper secondary students 2006-2019
(Percentages)
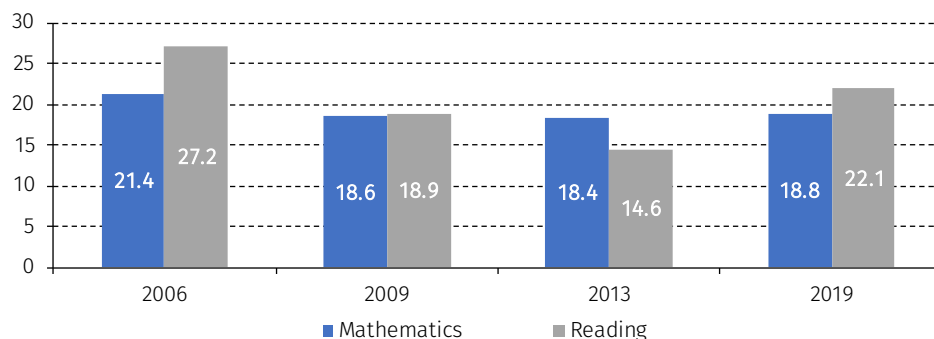
Source: Prepared by the author, on the basis of M. Quim, *Informe nacional de Graduandos: año 2019*, Ministry of Education (MINEDUC)/ General Directorate of Educational Evaluation and Research (DIGEDUCA), 2019 [online] https://www.mineduc.gob.gt/digeduca/ documents/informes/graduandos/Informe_Graduandos_2019.pdf.

Recently, MINEDUC conducted a national achievement assessment of 1,916,439 students at all levels. The assessment was intended to establish the performance achieved during the two years of the pandemic. When drafting this paper, results had not yet been published by MINEDUC. However, the first public information of the assessment highlighted that "in communication and language, 65% of primary school students failed to achieve the expected level of learning in reading and writing. In math, 62% performed below the required competencies for the grade assessed" (*Prensa Libre*, March 25, 2022, p. 8). Student performance is worse in the first three gradients compared to the 24 most urban municipalities. When assessing results of the 2019 national evaluations of upper secondary students by territory, a gap in achievements between the students of the fifth and the first gradients is evident. Students obtaining satisfactory achievements in the fifth gradient are three times as large in math than those in the first gradient. In reading skills, the percentage of students obtaining satisfactory achievement in gradient 5 is more than twice than gradient 1. The results improve as territories become more urban (see figure VII.9).

Figure VII.9
Guatemala: last-grade upper secondary students obtaining satisfactory achievement in math and reading, by gradient and sex, 2019
(Percentages)
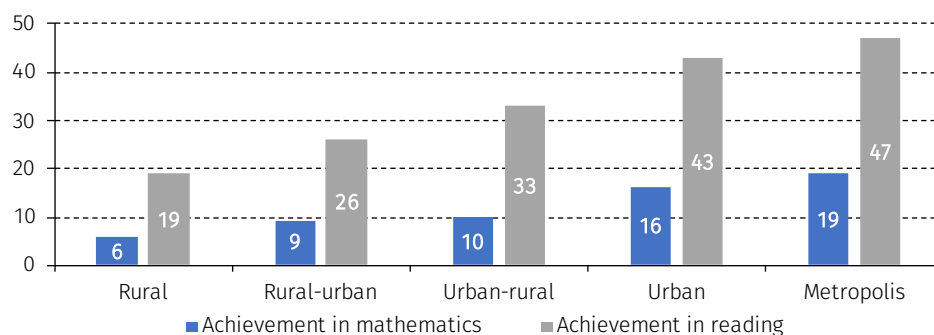
Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo diversificado del nivel de educación media en el año 2019" [online] https://www.mineduc.gob.gt/digeduca/apps/Bases_de_Datos_Evaluaciones/navegador/2019/Graduandos.asp, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

In the third year of lower secondary school, the learning gap is even greater between gradients. In both mathematics and reading, the percentage of students obtaining satisfactory achievement is four times higher on gradient 5 than on gradient 1 (see figure VII.10). An interesting aspect is that the performance of students in the urban-rural gradient is equally distant from totally rural and totally urban gradients. With the pandemic, home and family conditions had an even greater impact on educational outcomes. The mental health of children, young people and adults has since deteriorated. Overcrowding and other socioeconomic and cultural conditions of families directly impact the level of learning. Before the pandemic, Ramírez and Viteri (2019) highlighted that "about a quarter of students say they are victims of some type of violence at school in Mesoamerica" (p. 4). This situation surely deteriorated during the lockdown and pandemic, which will directly affect educational achievement.

Figure VII.10
Guatemala: third-year lower secondary school students achieving in mathematics and reading by gradient, 2019
(Percentages)
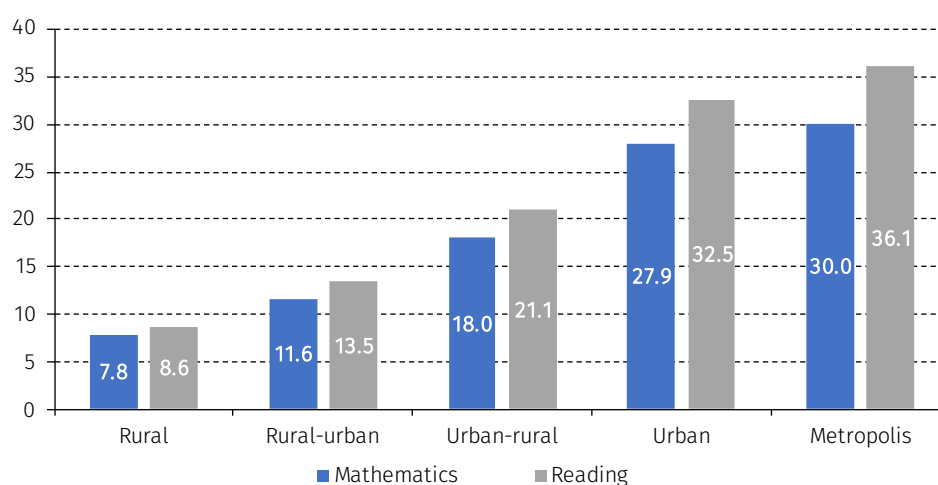
Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo diversificado del nivel de educación media en el año 2019" [online] https://www.mineduc.gob.gt/digeduca/apps/Bases_de_Datos_Evaluaciones/navegador/2019/Graduandos.asp, and W. Romero, *Clasificación municipios índice rural y urbano (IRU)*, 2022.

4. Gender gap

In Guatemala, women represent 51.5% of the total population. However, they only accounted for 48.6% of school enrollment in 2020, while men reached 51.4%. By level, primary and lower secondary school attendance gaps are the largest, 3% and 5.6%, respectively. By gradient, gender gaps tend to favour girls, except at the lower secondary level for the rural gradient (see figure VII.11). Girls have better performance indicators. Repetition, over-age and extra-age rates are lower in all gradients (see figure VII.12). In all territories, net coverage rates are higher for women, except for lower secondary cycle in rural areas, where the net coverage rate is higher for men.

Figure VII.11
Guatemala: gender gaps, net coverage rate for women minus net coverage rate for men, by gradient, 2020

Figure VII.12
Guatemala: efficiency indicators by sex and gradient, 2020
(Percentages)
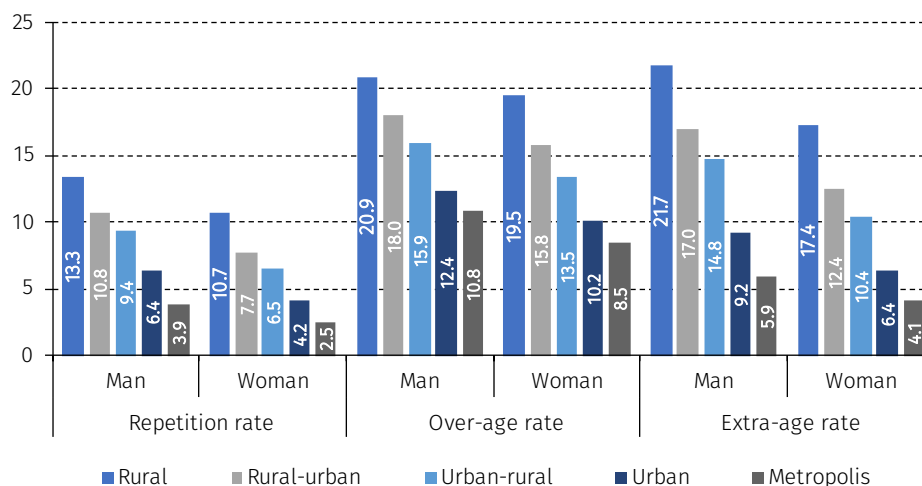
Although girls have better efficiency indicators, they obtain worse results, particularly in mathematics. Women show much lower levels of math achievement than men, and this gap tends to be higher in the more urban gradients. Reading achievement, though similar in the first two gradients, is slightly lower for women in the three most urban gradients (see table VII.3). In the upper secondary level, the same situation arises: men do better than women in math, and the trend increases in the more urban gradients. In reading skills, women perform slightly better in the two most rural gradients (see table VII.4).

Table VII.3
Guatemala: achievements of third-grade lower secondary students in math and reading, by gradient and sex, 2019
(Percentages)

Category	Math			Reading		
	Total	Women	Men	Total	Women	Men
Rural	7.8	5.8	9.3	8.6	9.1	8.2
Rural-urban	11.6	8.6	14.5	13.5	13.6	13.4
Urban-rural	18.0	14.1	21.8	21.1	20.9	21.3
Urban	27.9	22.1	33.8	32.5	31.3	33.7
Metropolis	30.0	25.2	34.8	36.1	35.6	36.7

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/; W. Romero, *Clasificación municipios índice rural y urbano (IRU), 2022*, and National Institute of Statistics (INE) of Guatemala, "Estimaciones y proyecciones de la población total según sexo y edad, 2015-2030" [online] https://www.ine.gob.gt/ine/proyecciones/.

Table VII.4
Guatemala: achievements of last-grade upper secondary students in math and reading, by gradient and sex, 2019
(Percentages)

Category	Math			Reading		
	Total	Women	Men	Total	Women	Men
Rural	5.9	4.2	7.4	19.3	20.3	18.5
Rural-urban	9.1	7.5	10.7	26.1	27.1	25.1
Urban-rural	10.5	7.6	13.6	32.7	32.4	32.9
Urban	16.0	11.4	20.9	43.0	42.0	44.2
Metropolis	18.6	15.1	22.1	47.2	47.5	47.0

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/; W. Romero, *Clasificación municipios índice rural y urbano (IRU), 2022*, and National Institute of Statistics (INE) of Guatemala, "Estimaciones y proyecciones de la población total según sexo y edad, 2015-2030" [online] https://www.ine.gob.gt/ine/proyecciones/.

At the territorial level, completion rates by sex for 2020 showed no significant differences in primary school. However, in lower secondary education, there is a gap to the detriment of women living in municipalities on the more rural gradient: a little more than a third of women complete this level. The gap is also negative for the following two gradients but is decreasing. When it comes to the urban and metropolitan gradients, the gap turns in favour of women. In the upper secondary cycle, as seen above (see figure VII.6), the completion rate is alarmingly low for the first gradient. When differentiating by sex, it is even lower for women (see figure VII.13).

Figure VII.13
Guatemala: gender gap in the completion rate of the different education cycles[a] and gradients, 2020
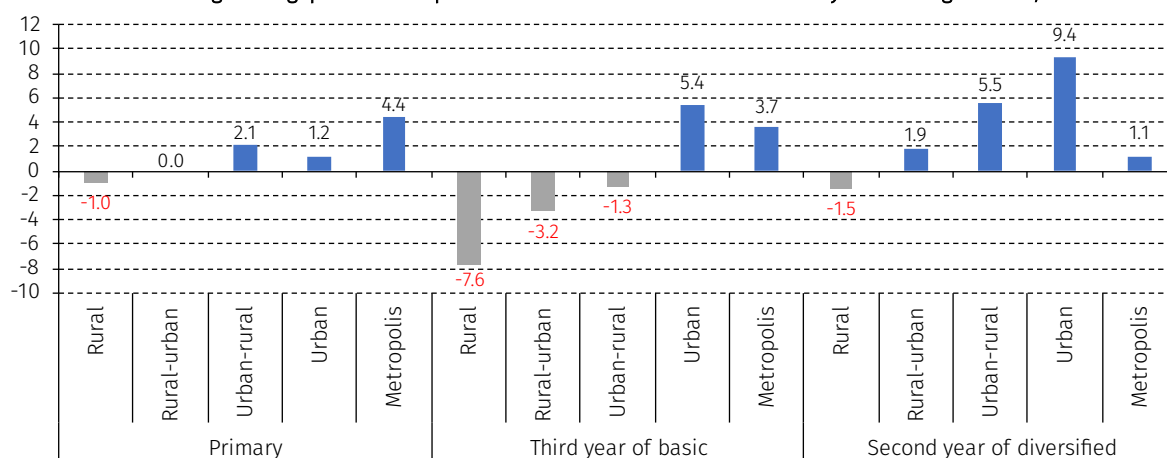
Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base Educación formal", 2021b [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/; W. Romero, *Clasificación municipios índice rural y urbano (IRU), 2022*, and National Institute of Statistics (INE) of Guatemala, "Estimaciones y proyecciones de la población total según sexo y edad, 2015-2030" [online] https://www.ine.gob.gt/ine/proyecciones/.
[a] Gross attendance rate for women in the last grade minus the same rate for men.

5.   Socioeconomic gaps

Socioeconomic gaps show that completion rates are directly related to income level. Although the most recent information available is for 2015, it can be seen that the lowest-income quintiles have much lower completion rates than those with the highest incomes. As for completion rate gaps, these are higher for more advanced educational levels and in rural areas (see figure VII.14). The binary regression developed for this study shows that upper secondary students have lower chances of academic achievement if they work.

Figure VII.14
Guatemala: primary completion rate by area and income quintile, 2015
(Percentages)
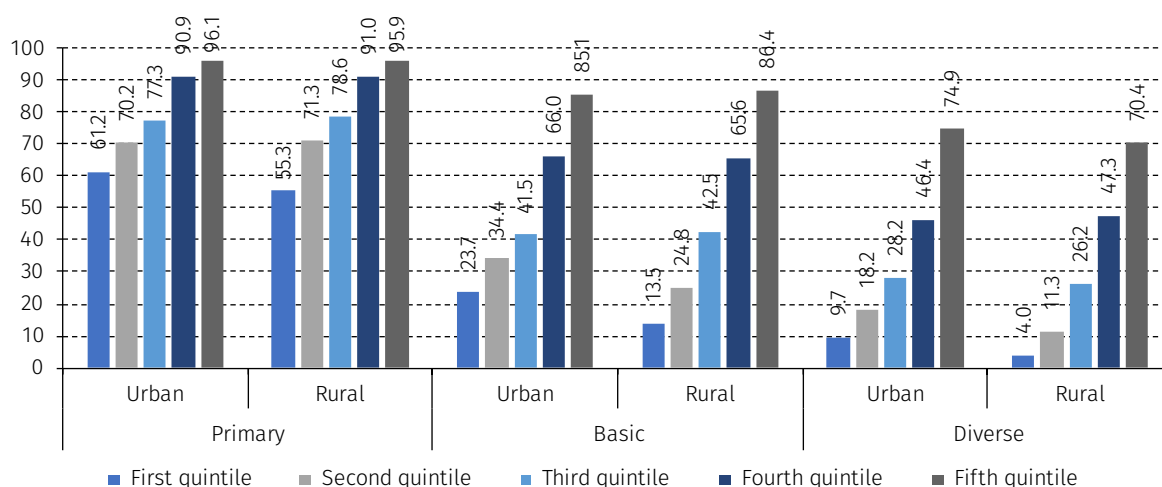
Source: Prepared by the author, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO), *UNESCO Institute for Statistics (UIS)*, *Sustainable Development Goals*, n/d [online database] http://data.uis.unesco.org/#.

6.   Cultural gaps

The education system does not yet promote inclusive intercultural citizenship. Guatemala is a country with ethnic, cultural and linguistic diversity. According to official data, 43.6% of Guatemalans identify themselves as belonging to an Indigenous People. The Maya people are the majority (41.7% of the total population), followed by the Xinka (1.8%) and the Garífuna (0.1%) (INE, 2019). Mayan languages in Guatemala comprise a family of about 22 languages, each with its particular structure. Though these languages have a common core, they have developed their own grammatical, phonological and vocabulary rules, including those for creating new words (Ramírez and Mazariegos, 1993).

Culture stands on language, the means by which cultural knowledge and values are acquired and transmitted. Oral tradition transmits the ethnic and moral principles and values of Mayan thought to the younger generations, including its philosophy and a legacy of scientific and cosmogonic knowledge with a genuine and unique aesthetic conception. In this philosophy, communities are organized around solidarity and respect for their members. The 22 Mayan languages, the Garifuna and Xinka spoken in Guatemala should be equally appreciated, and their development and practice should be promoted.

According to the website of the General Directorate of Intercultural Bilingual Education of MINEDUC,[12] intercultural bilingual education (IBE) is planned and developed in two languages: first language and Spanish. IBE seeks to promote coexistence between people of different cultures and is aimed at the four groups that coexist in Guatemala: Maya, Garífuna, Xinka and Ladino. In addition, it seeks to provide them with the tools they need to expand their opportunities for local, regional and national growth, achieving the full development of their potential in social life for a true intercultural coexistence.

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[12]   See [online] https://www.mineduc.gob.gt/DIGEBI/index.html.

It is estimated that IBE reduced drop-out rates since the number of bilingual teachers in municipalities with the largest Indigenous populations increased. However, according to a study by Vergara (2021),

> "some aspects persist that deserve intervention in order to achieve intercultural bilingual education. Some correspond to the social sphere, and others to the institutional sphere. As for the former, it is important to mention that the country's education system does not encourage inclusive intercultural citizenship that contributes to social transformation if, and only if, learning transcends school and lands on social reality. With regard to the practice of interculturality in school, subtractive and assimilationist bilingualism persists. Focused on the Indigenous population, it propitiates discrimination and racism and works against the rights established in international covenants and agreements. The educational model extends just to the third grade and is only applied in some areas, mostly rural ones, despite the fact that a large percentage of Indigenous children and young people live in cities. Moreover, there is a shortage of teaching staff, and parents and teachers lack awareness about the utmost importance of teaching in the first language" (p. 20).

The Ladino population seems to attend school more than those who self-identify as Indigenous. As shown in figure VII.15, there is a significant gap in attendance among the population according to their ethnic origin. In Guatemala, 43.5% of the population self-identify as Indigenous, but they represent only 33.6% of total school enrollment. The attendance gap for the Indigenous population widens at the lower and upper secondary levels. Indigenous enrollment represents 30% of total pre-primary enrollment, 39% of primary, 26.7% of lower secondary and 21.4% of total upper secondary enrollment.

Figure VII.15
Guatemala: enrollment gaps for the Indigenous population in relation to the total, 2020[a]
(Percentages)
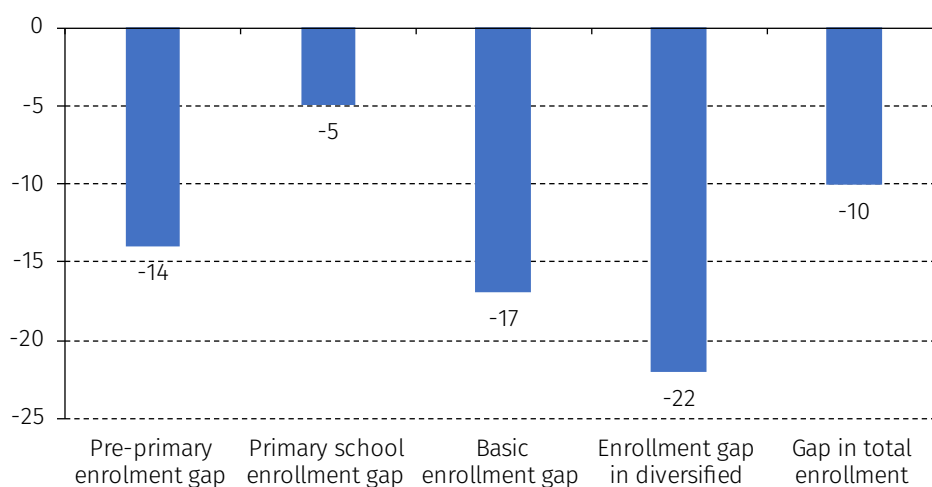
Source: Prepared by the author, on the basis of National Institute of Statistics (INE) of Guatemala; "Base Educación formal", 2021B [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021], and National Institute of Statistics (INE) of Guatemala, "Estimaciones y proyecciones de la población total según sexo y edad, 2015-2030" [online] https://www.ine.gob.gt/ine/proyecciones/.
[a] Indigenous attendance gap: the ratio between Indigenous enrollment and total enrollment at the corresponding level, as it compares to the proportion of Indigenous Peoples in the total population.

On the other hand, the Ladino population makes greater progress in the education system. Of students who identify themselves as belonging to an Indigenous People 12.8% are in pre-primary, 65% are primary students, 14.7% are lower secondary students and only 6.4% are upper secondary students. In the case of Ladinos, 15.2% are pre-primary students, 52.1% are primary students, 20.4% are lower secondary students and 11.8% are upper secondary level students.

Lower learning achievements are observed in the formal education system among students who self-identify as Indigenous. According to the 2019 Guatemala National Results Report ERCE, a sixth-grade student that belongs to an Indigenous People is more likely to score lower in achievement tests. The study concludes that Guatemalan students belonging to Indigenous Peoples experience learning disadvantages, which suggests that classroom schooling is not sufficiently effective to reverse the observed disadvantages and that it is necessary to muster efforts and resources to improve their learning opportunities. Results of achievement tests carried out by MINEDUC concur with the study. Students who self-identify as belonging to Indigenous Peoples obtain poorer results than Ladinos and foreigners who finish their lower or upper secondary education (see table VII.5). In addition, it would be important to investigate if evaluations carried out are adapted to the territorial and cultural context of students. According to Quim (2020), these results can be explained by the differences in socioeconomic level and the educational level achieved by the parents.

Table VII.5
Guatemala: students in the last grade of lower and upper secondary education who obtain satisfactory and excellent scores on tests according to ethnicity, 2019
(Percentages)

	Last grade of lower secondary students		Last-grade of upper-secondary students	
	Math	Reading	Math	Reading
Indigenous People	12.0	12.2	8.5	24.7
Ladino	22.3	27.4	15.2	41.5
Foreigner	22.7	23.5	23.0	42.4

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo diversificado del nivel de educación media en el año 2019" [online] https://www.mineduc.gob.gt/digeduca/apps/Bases_de_Datos_Evaluaciones/navegador/2019/Graduandos.asp.

As Gaudin (2019) points out, the main vulnerabilities in education that affect Indigenous Peoples and rural Afro-descending populations in Latin America and the Caribbean are illiteracy, problems in accessing education, high rates of school dropout and the challenges of interculturality[13] and bilingualism. Educational efficiency indicators evidence ethnic gaps. In primary school, repetition is higher for students who self-identify as Indigenous than for Ladinos. This does not happen in lower and upper secondary education. Over-age and extra-age tend to be higher in Indigenous students than Ladino students, at all levels (see table VII.6).

Table VII.6
Guatemala: efficiency indicators by self-identified ethnicity, 2020
(Percentages)

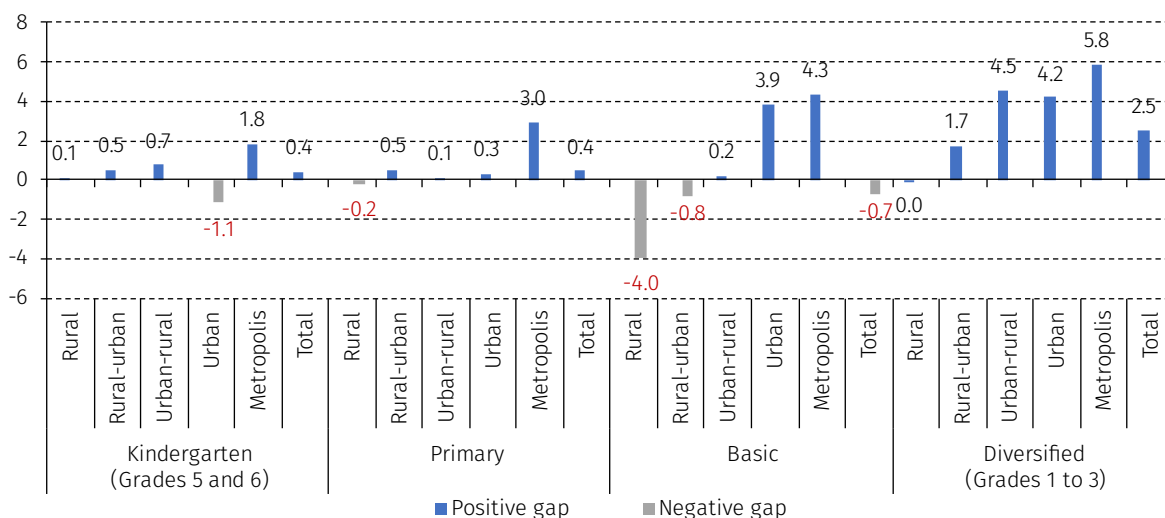|	Indigenous People	Ladino	Foreigner
Repeater			
Primary	11.6	7.1	3.1
Lower secondary	4.1	4.8	3.7
Upper secondary	1.9	2.1	1.5
Over-age			
Primary	19.4	14.1	20.0
Lower secondary	20.2	16.4	17.7
Upper secondary	1.9	2.1	1.5
Extra-age			
Primary	17.4	12.0	7.3
Basic	25.5	22.7	12.1
Diversified	25.9	23.5	17.3

Source: Prepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo diversificado del nivel de educación media en el año 2019" [online] https://www.mineduc.gob.gt/digeduca/apps/Bases_de_Datos_Evaluaciones/navegador/2019/Graduandos.asp.

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[13]   Interculturalism is meant as the integration and mutual enrichment of Indigenous and Ladino cultures, in contrast to one of these assimilating and dominating the other.

7.   Digital gaps

As for the digital gaps in accessing and using ICTs, they are linked to the whys and wherefores of people who use computers and the internet. Access to ICTs is important, but even more important is to use them well. The 2021 education goals approved by the Ibero-American Conference on Education propose "incorporating information and communication technologies into schools and, more specifically, teaching activities… The goals set by the countries have been divided into two groups: (i) those related to the development of school infrastructure and equipment and (ii) those that address issues related to the pedagogical definitions necessary to define the meaning of their use in school contexts" (Ibero-American Conference of Education-OEI, 2008, p. 60).

Only if young people develop more functional and specialized skills, as well as criteria for selecting and using the information available on the web, will ICTs have a positive impact on young people's opportunities in the productive, educational, social and political spheres. Adults, who guide and monitor learning, play a key role in this process of digital alphabetization. For this reason, it is a matter of concern that Latin American teaching staff, on average, makes little use of technology. Access to computers and the internet at home must be accompanied by educational policies aimed at improving educational performance (Formichella and Alderete, 2018).

Access to ICTs refers to the availability of new technologies and devices, such as whether the student (or the school) has computers, internet and mobile phones. ICTs reduce physical and temporal distances, so space and time lose relevance. Formichella and Alderete (2020) find that having greater availability and access to ICTs at home results in lower rates of school failure at the secondary level, although they recognize that the most important thing is how they are used. The digital gap and other barriers to connectivity, access and availability of ICTs profoundly increase educational inequality as they make virtual education harder (Formichella and Alderete, 2018).

Though computers have become increasingly common in schools, other elements, like courses, student learning, and teacher pedagogy, have remained largely unchanged, though they are the elements that define the quality of education and determine successful reforms (Álvarez and others, 2020).

During the pandemic, ICT access and use increased. In Latin America and around the world, the conventional teaching-learning model based on face-to-face interaction in a physical space halted due to the physical distancing caused by the health emergency. Millions of students around the world were affected, but with the support of technology, they had options at hand to keep the educational process active. Faced with the pandemic, distance education became an instrument of inclusion and a necessary and urgent response (Escorcia, 2020).

The closure of schools and the distancing and caution measures implemented to contain the spread of the virus forced States and education centers to transition to distance education rapidly. However, in the vast majority of cases, the conditions for the transition were not there. Thus, the transition highlighted gaps in access, connectivity, and digital skills in the region. The device with which people connect to the internet also affects students' quality and opportunities in their educational process, as connecting from a mobile phone is not the same as connecting from a computer (ECLAC, 2022).

Distance education became almost the only option to face the crisis in education. However, there was not enough time to adapt study materials, adequately prepare teachers and make major pedagogical adjustments. In Latin America, actions took three paths (Escorcia, 2020):

(i)   To generate access to platforms via the internet.

(ii)   To generate mass access via educational television systems.

(iii)   To broadcast radio programming, especially in communities where other channels were unavailable.

The authorities faced challenges in multiple dimensions to ensure minimum conditions for the learning process. They had to develop infrastructure, accelerate teacher training, organize systems for monitoring, and evaluation and pay attention to the family environment. Initially, authorities focused on acting swiftly with moderate investment, as they expected to reopen in 2021, and school calendars could be changed as needed. Nevertheless, it was soon apparent that internet coverage and access had to be

increased, and new formats were designed for distance education. However, responses faced significant challenges in achieving relevance and adequacy. In the face of the COVID-19 crisis, education authorities did what they could, even if it was not optimal: "the COVID-19 crisis showed deficiencies in the skills of teachers to manage virtual spaces, master tools, create content and achieve learning... This opens the opportunity to activate high-scale plans for the development of renewed teaching skills, according to the times and today's technology" (Escorcia, 2020, p. 151).

The information analyzed in this study shows that, in all gradients, the majority of students in the last year of the lower and upper secondary cycles have access to mobile phones. Thus, although the quality of these devices is not known, it is possible to assume that many students in all gradients can access WhatsApp or text messages. However, there are limitations on access to electricity, a computer and the internet: essential elements for continuing education during the pandemic. The National Center for Economic Investigations (CIEN) affirms that 9% of households have no access to electricity. In 25 municipalities, that proportion reaches 25% (CIEN, 2021).

There are wide gaps in access to a home computer and the internet at the territorial level. At the lower secondary level, the most rural gradient has half as much access to computers than the most urban gradient. As for internet access, the most rural gradient has a quarter of the amount reported by the most urban gradient. For last-grade upper secondary students, gaps in access to computers are much smaller. Access to computers is greater for students in the upper secondary cycle than in the lower secondary cycle, for all gradients. Possibly, this happens because the requirements of the grade or the characteristics of the households of upper secondary students are different. This is another aspect that new research could explore. In terms of internet access, the gaps between gradients are similar for the two education levels. This could be due to important access barriers in rural areas, such as connectivity difficulties and economic costs (see table VII.7).

Table VII.7
Guatemala: lower and upper secondary last-grade students according to access to mobile phones, computers and internet at home, by gradient, 2019
(Percentages)

	Third grade of Lower Secondary			Last-grade Upper Secondary students		
	Mobile	Computer	Internet	Mobile	Computer	Internet
Rural	91.2	27.9	15.0	92.1	45.1	16.7
Rural-urban	93.3	34.5	21.3	93.0	46.9	24.0
Urban-rural	94.8	45.2	34.7	94.4	58.1	37.5
Urban	96.2	59.5	50.9	94.8	69.7	50.1
Metropolis	95.3	60.6	58.7	95.2	70.6	62.1

SourcePrepared by the author, on the basis of Ministry of Education of Guatemala (MINEDUC), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo básico y a graduandos, año 2019" [online] https: //www.mineduc. gob.gt/digeduca.

Considering the limitations mentioned above, the Government of Guatemala, as a first response, launched a learning-at-home program to provide access to education during the pandemic. The program is a strategy for distance education that uses a digital platform available to students at pre-primary, primary and secondary education levels. As CIEN (2020) points out, "most of the 2,900,000 students in public educational centers have limited access to the internet and other mechanisms to access virtual and technological education. This affects primarily students living in rural areas who are in situations of poverty and extreme poverty" (p. 57). In these circumstances, television and radio programs, accompanied by self-study guides, were promoted as an alternative. However, children from households in vulnerable situations have lower chances of benefitting from these aids.

"According to international organizations, in addition to the digital gap, there is a family gap. They affirm that obstacles are not only digital, such as the lack of electronic devices but also that families with lower education have more difficulty helping their children with schoolwork at home. In the context of school closures, the family gap is another handicap

for inclusive school integration policies on equal terms for socioeconomically and culturally disadvantaged families" (Cabrera, Nieves and Santana, 2020, p. 29).

Despite the efforts made to date by the region's education sectors, according to World Bank estimates (2021a), Latin America and the Caribbean "could be the region with the second highest absolute growth in the indicator for learning poverty... It could also be one of the regions with the greatest increase in the proportion of young people in lower secondary schools below minimum achievement levels... Learning losses most affect the poorest... The socioeconomic learning gap is estimated to widen by 12%" (p. 7). Also noteworthy is the lag of children who attended the first cycle of primary school during the pandemic but did not achieve basic literacy skills and competencies. This situation could limit progress in their education.

B.   Factors affecting educational achievement (binary logistic regression)[14]

This study ran a binary logistic regression based on the 2019 MINEDUC assessments to analyze the factors that affect educational achievement in math and reading. The regression reveals the effect of one or more qualitative or quantitative variables (independent variables) on the binary variable under evaluation. This binary variable (or dichotomous dependent variable) has only two categories (in this case, achievement and non-achievement in math and reading). The dependent variables of the regression are "non-achievement in math" and "non-achievement in reading".

A student is considered to have obtained achievement in a subject when they have obtained a satisfactory or excellent evaluation. On the contrary, non-achievement occurs when the evaluation is unsatisfactory or needs to be improved. The independent variables comprise factors that, theoretically, may affect educational achievement. These factors include rurality, ethnicity, socioeconomic and family status, the educational level of the parents, the type of school establishment and the student's access to internet connectivity.

The probability of achievement is higher for students from Ladino private schools. Studying in government schools implies fewer possibilities of obtaining the desired academic achievements than in private schools. This is especially the case with mathematics. Regarding the student's ethnicity, the regression shows that, compared to Ladinos, people of Xinca and Garífuna origin are less likely to succeed in math and reading. Moreover, repeating any grade in primary school seems important in forecasting when a student will not obtain the desired academic results in reading and math.

The probability of achievement is higher for more urban students. Regarding the gradient on which the educational center is located, the results favour students at schools in the metropolis. Students who attend more rural establishments have lower chances of obtaining academic achievements in both subjects. Students in totally rural areas are the least favoured.

As for a student's economic conditions, the probability of achievement is higher for students who do not work. Accordingly, the fact that a student works reduces their chances of academic achievement. Compared to the effects of other variables, precarious housing conditions (such as dirt floors, tin roofs or no tap water in the house) seem to have minor effects on the possibility of obtaining academic achievements. This is also the case with overcrowding. However, not having electricity at home seems to constrain academic achievement in reading.

The digital divide of students seems to have minor effects on the possibilities of obtaining academic achievement compared to the incidence of other variables. However, not having a computer at home is the most relevant variable that limits the possibilities for academic achievement in math. As for reading, the most relevant digital gaps found are not having internet service or a computer at home.

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[14]   The method with which this study was carried out may be seen in: E. Jacir de Lovo, "Brechas de acceso a la educación en Guatemala: transformación educativa para la igualdad, con énfasis en las poblaciones rurales y los pueblos indígenas", *Project Documents* (LC/TS.2022/164-LC/MEX/TS.2022/20) [online] https://repositorio.cepal.org/handle/11362/48360, Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC), 2022.

The family gap is one of the most relevant elements that affect the possibility of obtaining academic achievements. Students whose fathers and mothers reached the postgraduate level are likelier to achieve in both subjects. When parents reached lower education levels, the possibilities for students to obtain achievements also fell. The mother's education level also affects educational achievement.

A student's first language seems to be an element that affects academic achievement. Students whose first language is other than Spanish are less likely to succeed. Factors affecting educational achievement are summarized in diagram VII.1.

Diagram VII.1
Guatemala: factors affecting educational achievement
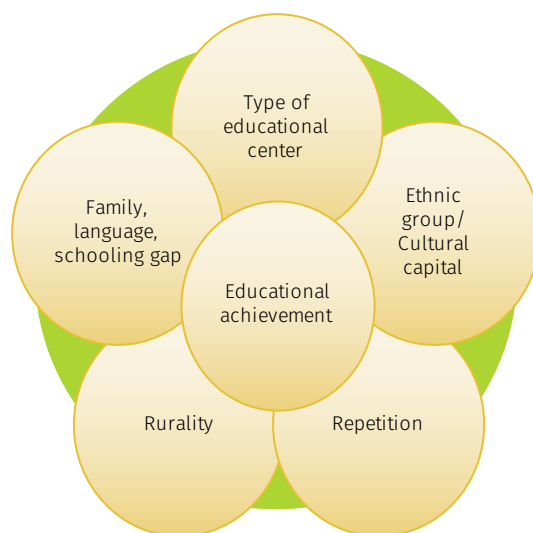
Source: Prepared by the author.

C.   Conclusions

This study generates enough evidence to confirm the hypothesis that, despite efforts in Guatemala, significant gaps in access to the effective enjoyment of the right to education persist, particularly for rural populations and Indigenous Peoples. Except for primary education, access gaps are significantly wide. Also wide are efficiency gaps, as expressed in the rates of repetition, drop-out, failure, over-age and extra-age, which are higher in those populations. Even more dramatic is the situation of educational achievements. Urban young persons can attain up to eight times more achievements than those living in rural areas or self-identifying as Indigenous. However, even young people living in more urban areas are far from achieving the knowledge, skills and competencies that will enable them to face life in the present moment and future years.

What to do? Though Guatemala has the largest economically active population in the region, its people have a very low education level. Of the 18 million people under 17 years of age living in the Central American region, about 7 million (37.7%) live in Guatemala. To change the future of its children, their country and the region, the greatest imperative for Guatemala is to take care of its children and young people. A national commitment to promote access to quality education as a long-term intersectoral State policy is a necessary condition to end the vicious circle that reproduces educational inequality and exclusion gaps in Guatemala.

Guatemala has an excellent opportunity for inclusive development if the country can transform its education system into a space to equalize opportunities and generate inclusion without leaving anyone behind. It is imperative to transform the education model, building on the changes introduced by the pandemic, adequately institutionalizing and strengthening them. These changes include (i) the centrality of education at home; (ii) the autonomy and empowerment of students that are personally accountable

for their learning; (iii) the organization and execution of teaching-learning processes delegated to educational centers, while following MINEDUC regulations, requirements and resources; (iv) parent and/or caregiver involvement in education; (v) emphasis on the importance of the mental health of students and teachers so that the school becomes a core space for the generation of socio-emotional skills and competencies; (vi) educational centers open to community participation; and (vii) access and use of ICTs in teaching-learning processes.

A model with these characteristics requires more substantial support for teachers and schools in the form of technical and pedagogical aids, monitoring and evaluation, and the provision of personalized learning resources for each education project prepared by and from the school, with the participation of the education community. These changes must be made in an intersectoral and systemic manner, generating the correct incentives for adequate teacher and student performance and for the continuous improvement of the teaching-learning process and the school. This implies redefining the roles that the Ministry of Education, teachers, students and parents play in the teaching-learning process and, consequently, a substantial increase of an education budget that considers not only wage increases. The best human, educational and infrastructure resources must reach the most rural communities. Bilingual schools and their impact should be investigated in greater depth, to strengthen intercultural teacher training, the intercultural bilingual offer, and so that the knowledge of Indigenous Peoples nurtures the national curriculum.

Increasing the public education supply at lower and upper secondary levels is also desirable, primarily in the three most rural gradients. However, it is not enough to provide free education at these levels. Also necessary are other interventions that reduce collateral economic, social and family costs, such as school meals, transportation, home and school care services, support materials, extracurricular activities and affirmative action to compensate for household deficits, particularly in rural areas. These interventions must be tailored to particular situations if they are to make access viable and, at the same time, prove the added value of education for the life project of children and their families.

Today, internet access is more important than ever. However, the digital gap between the most rural and most urban gradients is abysmal, possibly not only because of the socioeconomic conditions of households but also because of the low population density that raises connectivity costs. Regardless of the causes, the internet is a necessary condition for education. Therefore, it is a public service that merits universal access, so it must be included in a digital basic shopping basket, as proposed by ECLAC. Defining and implementing new strategies to match and improve learning outcomes is crucial. Among other strategies, it is essential to adapt the supply, curriculum and standards of education to the realities and requirements of the population in order to mirror its social and cultural diversity, primarily in the rural gradient, where the enrollment of Indigenous Peoples is higher. Further research should look deeper into this issue.

In addition, it is recommended to investigate the causes of girls' low achievement in mathematics and the social determinants and parenting practices at home and school that generate lower educational attainment in more rural gradients and Indigenous populations. It is imperative to diagnose the education system's management, review existing and/or necessary incentives and improve the educational performance of schools, teachers and students, so that they care whether their performance is good, fair or poor. It is also imperative to develop a strategy to reach a commitment to education, taking up initiatives such as the Alliance for Education, the Great National Campaign for Education or Business for Education, among other initiatives that seek to mobilize society around an education agenda. It is proposed to use the territorial perspective adopted by this study as an instrument to identify and measure educational gaps, focus efforts and define more effective and specific territorial actions.

Bibliography

Álvarez, H. and others (2020), "La educación en tiempos del coronavirus. Los sistemas educativos de América Latina y el Caribe ante COVID-19", *Documento para discusión*, No. IDB-DP-00768, Washington, D.C., Inter-American Development Bank (IDB) [online] https://publications.iadb.org/publications/spanish/document/La-educacion-en-tiempos-del-coronavirus-Los-sistemas-educativos-de-America-Latina-y-el-Caribe-ante-COVID-19.pdf [date of reference: 4 August 2020].

Cabrera, L., C. Nieves and F. Santana (2020), "¿Se incrementa la desigualdad de oportunidades educativas en la enseñanza primaria con el cierre escolar por el coronavirus?", *International Journal of Sociology of Education (RISE)* [online] https://www.academia.edu/43373344/_Se_Incrementa_la_Desigualdad_de_Oportunidades_Educativas_en_la_Ense%C3%B1anza_Primaria_con_El_Cierre_Escolar_por_el_Coronavirus.

CIEN (National Economic Research Centre) (2021), *Una estrategia para el uso de la tecnología en la educación*, Guatemala [online] https://cien.org.gt/wp-content/uploads/2021/12/Documento-Tecnologia-en-la-EducacionGT-web.pdf.

ECLAC (Economic Commission for Latin America and the Caribbean) (2022), "Presentación de *Panorama Social de América Latina, 2021*" [online] https://www.cepal.org/sites/default/files/presentation/files/ppt_panorama_social_2021-version_final.pdf.

Escorcia, G. (2020), "El rol de internet durante la pandemia de COVID-19 en Latinoamérica. Teleeducación", *Internet y pandemia en las Américas, primera crisis sanitaria en la era digital,* E. Ford and W. Weck (eds.), Fundación Konrad-Adenauer [online] https://www.kas.de/es/web/regionalprogramm-adela/un-solo-t%C3%ADtulo/-/content/internet-y-pandemia-en-las-americas.

Formichella, M. M. and M. V. Alderete (2020), *Análisis de la primera brecha digital y su vínculo con el fracaso escolar en la Provincia de Buenos Aires*, LV Reunión Anual, noviembre, Asociación Argentina de Economía Política.

_____(2018), "ICT at school and educational outcomes: the mediating effect of the use of ICT at home", *Cuadernos de Investigación Educativa*, vol. 9, No. 1, Montevideo, Universidad ORT [online] http://www.scielo.edu.uy/pdf/cie/v9n1/1688-9304-cie-9-01-75.pdf.

Free Press (2022), "Evidente rezago educativo obliga a revaluar contenidos", Guatemala, March 25 [online] https://www.prensalibre.com/guatemala/comunitario/rezago-educativo-es-evidente-ahora-que-ninos-comienzan-a-retornar-a-las-aulas/.

Gaudin, Y. (2019), "Nuevas narrativas para una transformación rural en América Latina y el Caribe. La nueva ruralidad: conceptos y medición", *Documentos de Proyectos* (LC/TS.2019/45-LC/MEX/TS.2019/9), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

INE (National Institute of Statistics) (2019a), *XII Censo Nacional de Población y VII de Vivienda. Resultados Censo de Población 2018,* Guatemala [online] https://www.ine.gob.gt/sistema/uploads/2021/11/19/202111192139096rGNQ5SfAlepmPGfYTovW9MF6X2turyT.pdf.

_____(2019b), "Encuesta Nacional de Empleo e Ingresos (ENEI)", Guatemala [online] https://www.ine.gob.gt/ine/encuesta-nacional-de-empleo-e-ingresos/.

Jacir de Lovo, E. (2022), "Brechas de acceso a la educación en Guatemala: transformación educativa para la igualdad, con énfasis en las poblaciones rurales y los Pueblos Indígenas", *Documentos de Proyectos* (LC/TS.2022/164-LC/MEX/TS.2022/20), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC) [online] https://repositorio.cepal.org/handle/11362/48360.

MINEDUC (Ministerio de Educación de Guatemala) (2022), "Base de datos de la evaluación aplicada a estudiantes del último año del ciclo diversificado del nivel de educación media en el año 2019" [online] https://www.mineduc.gob.gt/digeduca/apps/Bases_de_Datos_Evaluaciones/navegador/2019/Graduandos.asp.

_____(2021a), "Anuario estadístico de la educación de Guatemala, años 1992 al 2021 – Preliminar final al 2022-05-09", Guatemala [online] http://estadistica.mineduc.gob.gt/anuario/home.html#.

_____(2021b), "Base educación formal" [online] https://www.ine.gob.gt/ine/estadisticas/bases-de-datos/educacion/ [date of reference: April 2021].

MINEDUC/DIGEDUCA (Ministerio de Educación de Guatemala/Dirección General de Evaluación e Investigación Educativa) (2020), "Resultados generales de la evaluación educativa" [online] https://www.mineduc.gob.gt/digeduca/documents/resultados/Resultados_generales.pdf.

OEI (Organization of Ibero-American States for Education, Science and Culture) (2008), *Metas educativas 2021, La educación que queremos para la generación de los bicentenarios* [online] https://oei.int/downloads/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBcjByIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--abd7d046ad3fa52133864509a303b4039a909078/documento%20inicial.pdf.

Quim, M. (2020), *Informe nacional de Graduandos: año 2019*, Ministerio de Educación/Dirección General de Evaluación e Investigación Educativa (MINEDUC/DIGEDUCA) [online] https://www.mineduc.gob.gt/digeduca/documents/informes/graduandos/Informe_Graduandos_2019.pdf.

_____(2019), *III Básico – Evaluación TER2019 – Informe de resultados nacionales*, Ministerio de Educación (MINEDUC)/Dirección General de Evaluación e Investigación Educativa (DIGEDUCA) [online] https://www.mineduc.gob.gt/digeduca/documents/informes/basicos/InformeTER2019.pdf.

Ramírez, M. and L. M. Mazariegos (1993), *Tradición y modernidad: lecturas sobre la cultura maya actual*, Guatemala, Universidad Rafael Landívar, Instituto de Lingüística.

Ramírez, M. J. and A. Viteri (2019), *El embudo de la exclusión educativa en Mesoamérica,* Washington, D.C., Banco Interamericano de Desarrollo (BID) [online] https://publications.iadb.org/es/el-embudo-de-la-exclusion-educativa-en-mesoamerica.

Romero, W. (2022), "Elementos de una agenda de transformación productiva inclusiva en Guatemala", Departamento de Ciencias Económicas del Instituto de Ciencias Sociales y Humanísticas, Universidad Rafael Landívar, Guatemala, unpublished.

Romero, W. and others (2020), *Territorios funcionales rural-urbanos en Guatemala e identificación y caracterización socioeconómica de territorios funcionales urbano-rurales en El Salvador, Centroamérica*, Guatemala, UCA Editores.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (n/d), UNESCO Institute for Statistics (UIS) [online database] http://data.uis.unesco.org/#.

_____(2021a), *Estudio Nacional Comparativo y Explicativo (ERCE 2019) - Reporte Nacional de Resultados: Guatemala*, Paris [online] https://unesdoc.unesco.org/ark:/48223/pf0000380248.

_____(2021b), "Informe Nacional de Guatemala sobre los resultados del Estudio Regional Comparativo y Explicativo (ERCE 2019)", Paris.

United Nations (2015), "Transformar nuestro mundo: la Agenda 2030 para el Desarrollo Sostenible", Sustainable Development Goals (SDG), General Assembly A/RES/70/1.

Vergara, M. (2021), "De la educación indígena a la educación intercultural en México, Colombia y Guatemala: debates, reflexiones y retos", *Utopía y Praxis Latinoamericana*, vol. 26, No. 95, Universidad del Zulia, Venezuela [online] https://www.redalyc.org/articulo.oa?id=27968419001.

World Bank (2021a), *Actuemos ya para proteger el capital humano de nuestros niños: los costos y la respuesta ante el impacto de la pandemia de covid-19 en el sector educativo de América Latina y el Caribe*, Washington, D.C., Open Knowledge Repository [online] https://openknowledge.worldbank.org/handle/10986/35276.

Chapter VIII
Limitations in access to health in Mexico within the new rurality framework[1]

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Introduction

The objective of the research from which this chapter is taken was to analyse and quantify the gaps in access to health in the new Mexican rurality. To this end, the debates about the new rurality and the gaps in access to health were reviewed. The debate in Mexico was given special attention. The definition of rurality has opened major academic and public policy debates. There is no agreement on what should be considered a rural population, generally as opposed to the urban population (Unikel, 1973; OECD, 2007; Dirven and Candia, 2020). Disagreement is not new: Unikel (1973, p. 378) wrote in the early 1970s that, until then, "renowned scholars on the subject have not agreed on what are the characteristic features of an urban and a rural community". More recently, Gaudin (2019, p. 8) stated that "there is a great diversity of considerations about rurality and, therefore, there is no single and consensual definition".

A few examples of indicators of rurality are sufficient to show these discrepancies. In Mexico, the criterion currently used in official statistics is based on population numbers (localities with less than 2,500 inhabitants are rural), but it has not always been so (OECD, 2007; Unikel, 1973). In large part, the lack of agreement" is due to the fact that rurality is not homogeneous" (Gaudin, 2019, p. 8) and transforms over time. Along with the discussion about the criteria for defining rural spaces, the academic debate about rurality has intensified, especially since the 1990s, after the market reforms in Latin America. In particular, anthropology, economics, political science, geography and sociology have attempted to delve into the economic, social, political, cultural and environmental dimensions of territories considered rural. The traditional conception of rurality, which conceives it only as a synonym for agricultural activities (according to Gaudin, 2019) or limits it to something that "belongs to or relates to the country life and its tasks" (RAE, 2021), is being questioned. In addition, some, as Carton de Grammont did in 2004, argue that life in the countryside is not organized exclusively around agricultural activities.

Likewise, objections are being raised against the simplistic country-city dichotomy that opposes traditional agricultural villages against the big city. On the one hand, this dichotomy is not helpful in analysing more complex spatial and social processes (Arias, 2002). On the other, it reduces rurality to the leftovers of the urban setting, to a "depopulated, agricultural, backward, archaic and underdeveloped environment" (Gaudin, 2019, p. 16). As it may be seen, what is in dispute is the way of conceiving the rural world (Arias, 2002; Kay, 2009; Gaudin, 2019).

Socioeconomic and demographic transformations in the rural world have a long history, but since the beginning of structural adjustments in Latin America, people began to speak of a new rurality. This conceptualisation is far from being agreed on, and various approaches have been used to refer to it

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[1]   This chapter is a summary of Valencia and Jaramillo (2023), "Brechas de acceso a la salud en México, en el marco de la nueva ruralidad", *Project Documents* (LC/TS.2023/25-LC/MEX/TS.2023/2), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

widely in the literature. Given the diversity of approaches, it is not an easy task to synthesize the elements of the concept of new rurality. However, it is possible to propose a basic set of characteristics.

In the context of market reforms and the heterogeneous transformations of capitalism, new rurality includes at least the following traits:

- Diversification of economic activities, with the increasing importance of non-agricultural activities and a decrease in the weight of agriculture in household income;
- New dynamics in rural-urban relations;
- Persistence or reconfiguration of gaps and lags;
- Relevant population changes, such as different kinds of migrations;
- Heterogeneity of territorial configurations; and
- Urgency for new rural development frameworks.

Gaudin (2019) adds other characteristics, such as the growing concern for taking care of the environment and the changes in the way traditional State works in rural areas. What stands out from a review of the state of the art is the complexity of the new rurality and its economic, social, cultural and demographic aspects.

In contrast to the traditional vision of rural areas as something homogeneous or simple, an approach to the complexity of the rural world has been gaining support, especially in the economic context of profound transformations in agricultural and social policies, the performance of markets, trade openness and a State that steps aside. Demographic changes have brought about a reduction in the relative weight of rural populations, though they have grown in absolute numbers. The weight of agricultural production in the economy, in general, is lighter. Though local and regional heterogeneities exist, even in rural areas, agriculture does not count as much as it used to because households have diversified their economic activities, and wage-earning activities are more frequent. In some localities and regions, there has been a growing incorporation of female labour force participation. Migration has expanded and diversified for different periods of time (permanent, long-term, circular, seasonal and daily labour mobility) new regions join the migration to the United States, and people keep leaving the country for the city or move from their villages to areas of intensive export agriculture, especially in the north of the country. Finally, the weight of remittances in the consumption and investment of recipient households has become ever more significant.

In Mexico, after 20 years of economic reforms and new social policies aimed especially at the poor (PROCAMPO in 1993, Progresa —later Oportunidades— in 1997, Seguro Popular in 2003 and Pensión Básica in 2007), the new rurality is ridden with poverty which stays at remarkably high levels. By the way, poverty is another characteristic of the new rurality, which has persisted since the old rurality (Kay, 2009). Since the beginning of this century, there have been more intense debates about social policies, poverty and inequality. One of the central themes of these debates has been access to health institutions by rural populations[2] and Indigenous Peoples. In particular, discussions on poverty estimates have stood behind the incorporation of shortcomings in the multidimensional measurement of poverty of the National Council for the Evaluation of Social Development Policy (CONEVAL), the development of the National Health Survey and Nutrition (ENSANUT) in its different issues and the health reform of 2003 —which included the creation of the Seguro Popular, a form of health care with extensive coverage in rural areas—, In this context, studies were published on health gaps, which gave special attention to access to health institutions.

This first approach (rather optimistic regarding narrowing gaps thanks to the growing affiliation to the Seguro Popular in rural areas and indigenous communities) led to a debate (currently underway) on potential and effective access and gaps within the right to health framework. The aim of this chapter is to contribute to the discussion by incorporating the complexity of the new rurality[3] and the health gaps for rural localities and indigenous communities.

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[2]   Generally, rural populations are understood to be those that live in places with less than 2,500 inhabitants.
[3]   By rural communities, this chapter considers localities with up to 14,999 inhabitants.

The chapter includes three large sections. The first section presents the methodological framework proposed for the diagnosis of health gaps in the new rurality in Mexico. The second one describes the health gaps in the new rurality, emphasising potential access to health (through social security and Seguro Popular), effective access to health (also considering the commodification of health care), quality-effective access to health care (in public institutions, including those in which payments are reported for services and a long time spent before getting health attention). The third section presents conclusions.

A. Methodological framework for the diagnosis of health gaps in the new rurality in Mexico

The method proposed for diagnosing the gaps in access to health in the framework of the new rurality will be presented next. The presentation includes fundamental sources and variables, and indicators to be constructed from a human rights approach.

1. Information sources

This chapter used information sources that have enough variables to account for the different dimensions incorporated to analyse access to health in rural areas. The National Household Income and Expenditure Survey (ENIGH), carried out by INEGI, stands out as one of the most reliable sources of information on the subject in Mexico. The Survey incorporates the dimensions of access to health in a wide range of questions, in addition to making it possible to use questions related to the interviewee's work and economic environment, as well as other sociodemographic variables relevant to the analysis. The advantages of using ENIGH include the breadth of its collection, the possibility of producing information on localities of different sizes (including rural ones), the periodicity (every two years), the availability of microdata for a broad period (when possible for the period 1992–2018) and the incorporation of variables that are useful for the analysis of access to health care, in addition to other relevant sociodemographic, economic and employment variables.

2. Specific indicators of interest for gaps measurement

The following indicators were calculated for the general analysis of access to health in the Mexican rural population:

- Potential access: Percentage of the population with potential access = 100% (percentage of the population affiliated to any public health institution or private medical insurance).

- Effective access: Percentage of the population with effective access (based on Fajardo-Dolci, Gutiérrez, and García-Saisó, 2015, p. 184) = 100% - (percentage of the population without affiliation to any public health institution or private medical insurance) - (percentage of the population affiliated to public institutions who received private attention in response to public barriers).

- Quality-effective access: Percentage of the population with quality- effective access = 100% - (percentage of the population without affiliation to any public health institution or private medical insurance) - (percentage of the population with affiliation to public institutions but who was treated in private services as a response to barriers) - (percentage of the population affiliated to public institutions and, being treated in them, has to make payments for visits, medicines, laboratory studies, hospitalisation, medical instruments or others). Diagram VIII.1 illustrates the logic of interrelation between the three previous variables.

Diagram VIII.1
Structure of the estimated population with potential access, effective access and quality-effective access

```
                          ┌─────────────────────┐
                          │  Total population   │
                          └──────────┬──────────┘
              ┌──────────────────────┴───────────────────┐
    ┌─────────────────────┐                    ┌─────────────────────┐
    │  No affiliation to  │                    │  With affiliation to│
    │ health institutions │                    │ health institutions │
    └─────────────────────┘                    └─────────────────────┘
                                                     Potential access
                                                           │
                                                  With health problem?
                                                     ┌─────┴──────┐
                                                    Yes          No----┐
                                                     │                 ┊
                                         Did you receive medical attention?
                                     ┌───────────────┴──────────┐      ┊
                                     No                        Yes     ┊
                                                                │      ┊
                                               Where did you get medical care?
                                        ┌───────────────────────┴───┐  ┊
                            ┌─────────────────────┐     ┌─────────────────────┐
                            │ In the private      │     │ In a public health  │
                            │ sector (despite     │     │    institution      │
                            │ having affiliation  │     │                     ┊
                            │ in a public         │     └─────────────────────┘
                            │ institution)        │          Effective access
                            └─────────────────────┘                │
                                                  Did you have to make a payment for
                                                    care in any public institution?
                                     ┌───────────────────────────────┴───┐
                         ┌─────────────────────┐          ┌─────────────────────┐
                         │     Yes paid        │          │ Didn't pay (had free│
                         │ (for consultation,  │          │     access)         │
                         │ medicines, studies, │          └─────────────────────┘
                         │ hospitalization     │              Effective access
                         │ and/or medical      │                 and quality
                         │ instruments)        │
                         └─────────────────────┘
```

Source: Prepared by the authors.

B.   Health gaps and new rurality

1.   Potential access to health

a)   Potential access to health in general

Between 2008-2018, there was an increase in potential access to health at the national level, both in urban and rural areas. However, this access should be weighed carefully since much of it was achieved through Seguro Popular, an instrument with limited medical coverage. Alternative metrics were even proposed to relativize this increase. Between 1992 and 2006, 36% of the inhabitants of Mexico had potential access to health, which increased to 75% between 2008 and 2018. Despite this increase, at the end of the period under study (2018), 18% of the population was not affiliated to a public health institution or had private medical insurance (see figure VIII.1).

Initially (1992–2006), potential access was higher in urban locations (47%), where it was even higher than the national average. In contrast, in rural localities, only 17% of the population was affiliated to a health institution. Between 1992 and 2006, the average gap between these two types of localities was 2.8 times. Between 2006 and 2008, the gap narrowed significantly. On average, between 2008 to 2018, potential access for urban and rural populations remained at 75%; This was influenced by the dynamism shown by the sector in rural areas. The average gap in those years was 1.01, which means that the difference between the two types of localities disappeared. Despite this remarkable dynamism, in 2018, 19% of urban inhabitants and 15% of rural inhabitants did not have potential access to health (see figure VIII.1).

Figure VIII.1
Mexico: population with potential access to health care, by place of residence, 1992-2018
(Percentage of population)
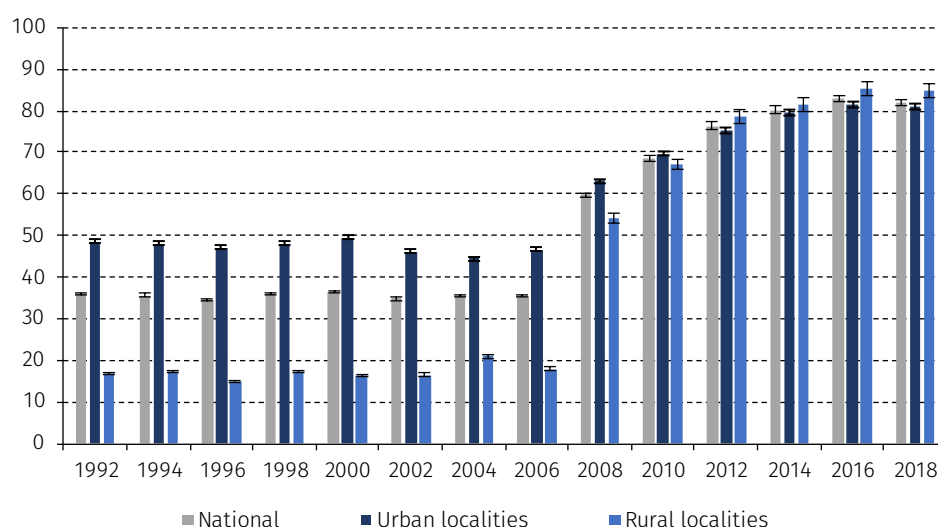
■ National ■ Urban localities ■ Rural localities

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.
Note: This and the following graphs show lines that indicate the statistical confidence intervals of the estimates.

Potential access to health during the period under study took two predominant forms: social security and public social protection institutions of indirect contribution (hereinafter IPPS-CI), especially the Seguro Popular. Two shorter periods stand out in these almost three decades. Between 1992 and 2006, potential access was mainly through social security. Later, between 2008 and 2018, access was favoured by the competitive inclusion of IPPS-IC, the result of the 2003 health reforms and the incorporation of Seguro Popular. Potential access to health is thus obtained through various social security and social protection institutions, which work in parallel in a segmented, non-unified manner. A third form of access was private medical insurance, which covers a minority of the population due to it high cost. When considering the latest consolidated information date from ENIGH (2018), 43% of the population had potential access to health through social security, 42% through Seguro Popular and 1.3% through private medical insurance. Total access amounted to 82%[4] (see table VIII.1).

Table VIII.1
Mexico: potential access to health in a range of institutions, 1992-2018
(Percentages)

Institution of potential access	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018
Public institution	35	35	34	35	36	34	35	35	60	69	76	80	83	82
Public social security institution	34	34	34	35	36	34	35	35	38	40	37	41	43	43
IMSS	28	27	27	29	29	28	29	29	31	32	30	34	35	36
ISSSTE	7	8	7	7	7	7	7	7	7	7	7	7	7	7
PEMEX and Armed Forces social security	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Seguro Popular	0	0	0	0	0	0	0	0	20	31	42	43	45	42
IMSS-Prospera	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Other	0	0	0	0	0	0	0	0	2	1	2	1	1	1

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[4] It should be noted that the sum of the three forms of access is higher due to the duplication of records, a general situation in surveys taken between 1992 and 2018.

Institution of potential access	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012	2014	2016	2018
Private health insurance	1	1	1	2	2	2	1	1	1	1	1	1	2	1
Potential access to health (total)	36	36	34	36	36	35	36	36	60	69	76	80	83	82

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.
Note: Between 2008 and 2018, ENIGH reported affiliation to social security institutions not only of employees, but also through other channels, such as voluntary affiliation, affiliation for public university students, retired people with a pension and so on. From 1992 to 2006, The Survey only registered affiliation through work. From 1992 to 1994, the PEMEX and Armed Forces social security category also included medical services for university students. From 1996 to 2006, the category "other institution" only included medical services for university students. From 2008 onwards it only included one other institution. From 1992 to 2006, private medical insurance is reported only as an employment benefit. From 2008 to 2014, the Survey included a question on voluntary private medical insurance, without asking if insurance was provided as some kind of labour benefit. As of 2016, both are available (voluntary private insurance and insurance as a benefit).

b)   Social security

Between 1992 and 2006, potential access to health through social security was the predominant form, with an average of 97.3%. Systematically, in those years, more than 94% of potential access was generated in social security institutions, especially the Mexican Institute of Social Security (IMSS). Between 2006 and 2008, a significant change took place: social security ceased to be the almost sole form of access to health care due to the growing affiliation with other institutions. From representing 98% of potential access to health in 2006, it decreased to 63.2% in 2008, a process that continued in the following years. Between 2008-2018, the average weight of potential access to health through social security was 54.1% (see figure VIII.2).

Figure VIII.2
Mexico: population with potential access to health through social security by place of residence, 1992-2018
(Percentages of population with potential access)

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.

In urban localities, social security is the foremost form of potential access to health. Between 1992 and 2006, 97.3% of the population accessed health through it. In 2006-2008 things changed, and potential access through social security fell. In the 2008–2018 period, it averaged 69.5%. It may be said that, despite the changes experienced in the first decade of the 21st century, social security continues to be the most important form of potential access to health for the inhabitants of urban localities in Mexico. The most notable change was observed in rural localities. In these, too, the main potential access between 1992 and 2006 was through social security (97.3% on average). However, between 2006 and 2018, there was less

potential access (only one in five inhabitants had it), and access was no longer concentrated on social security.

The particularly noticeable change in rural localities occurred between 2006 and 2008, when the percentage of the population with potential access to health care through social security went from 97.8% in 2006 to 32.5% in 2008, while between 2008 -2018, it dropped to 28.5%. Therefore, it may be said that, in rural localities, social security is not the most important potential access route to health (see figure VIII.2 and table VIII.1).

Potential access to health care through social security, which was predominant in 1992-2006 (see figure VIII.3), was low at the national level, intermediate in urban locations and very low in rural locations. At the national level, it reached an average of 35% of the population in this period. In the second period (2008-2018), this indicator increased by just 5 percentage points, reaching an average of 40%. In 2012, the country went through a labour reform, which had very small results on formal job creation (with social security). Between 2012 (37%) and 2018 (43%), access to health care through social security only increased by 6 percentage points. In urban areas, potential access to health care through social security was higher between 1992 and 2006. With slight fluctuations, it remained at an average of 46%, increased to 52% in 2008 and reached 55% in 2018.

Figure VIII.3
Mexico: population with potential access to social security health care, by place of residence, 1992-2018
(Percentages of total population)
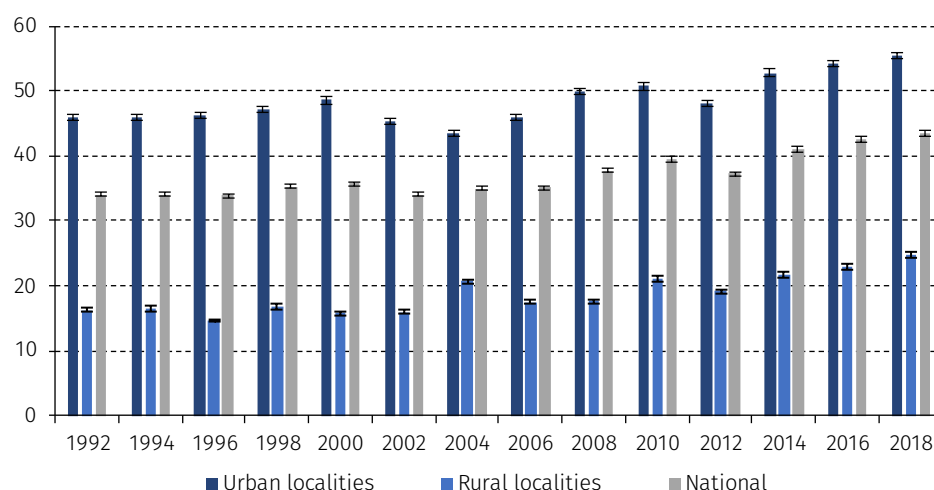
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.

Thus, in urban localities after three-quarters of a century (1943) of the start of social security in the country —in whose design it particularly favoured urban areas—, a little more than half of the population has potential access to health through social security. In contrast, in rural localities, access to health care through social security was remarkably low in the 1992–2006 period, averaging 17%. It increased in the period 2008-2018, rising to 21% on average until it reached 25% in 2018. The structural reforms in the Mexican rural sector did not have a significant impact on the generation of access to health through social security. Moreover, in some regions of the country, rural localities still have lower potential access to health care through social security (for example, by 2018, in Chiapas, the indicator was 7%, in Guerrero, 11%, and in Puebla, 12 %).

Thus, the average gap between rural and urban localities in potential access to health through social security was 2.7 times favourable to urban localities in the period 1992-2006. In the period 2008-2018, it became slightly lower (2.5 times). After almost three decades, a high proportion of the population still does not have potential access to social security: in 2018, 75% of the population of

rural localities could not count on it. In the same situation were 45% of the population of urban areas and 57% of the national population. The lack of protection, especially for the rural population, is notorious. These gaps are keener in rural localities. By observing the inequality that takes place in those localities, some sectors are particularly unprotected, with even less potential access to health through social security.

c)   Seguro Popular

As of 2008, potential access to health through IPPS-IC is competitive with social security institutions. Although Seguro Popular began in 2003, the change it produced became noticeable until the ENIGH of 2008. A relevant transformation took place: initially there was no option of potential access through an IPPS-CI, a process of expansion of options began in 2003. By 2008, one third of the total potential access to health at the national level occurred through Seguro Popular. This is an accelerated change in affiliation (potential access). By 2018, potential access through Seguro Popular equals access through social security. In both cases, the proportion stands over 50% of the total.[5] An important change took place in urban localities, as potential access to health could also be obtained through IPPS-ICs, whose average enrolment reached 33% between 2008 and 2018. However, the most significant transformation in potential access to health care took place in rural localities, where affiliation to the Seguro Popular reached 75% (see figure VIII.4). This radical change must be tempered by the weaknesses of the Seguro Popular, because the programme provided a limited package of services that encompassed just about 15% of potential social security services.

Figure VII.4
Mexico: population with potential access to health through the Seguro Popular, by place of residence, 2008-2018
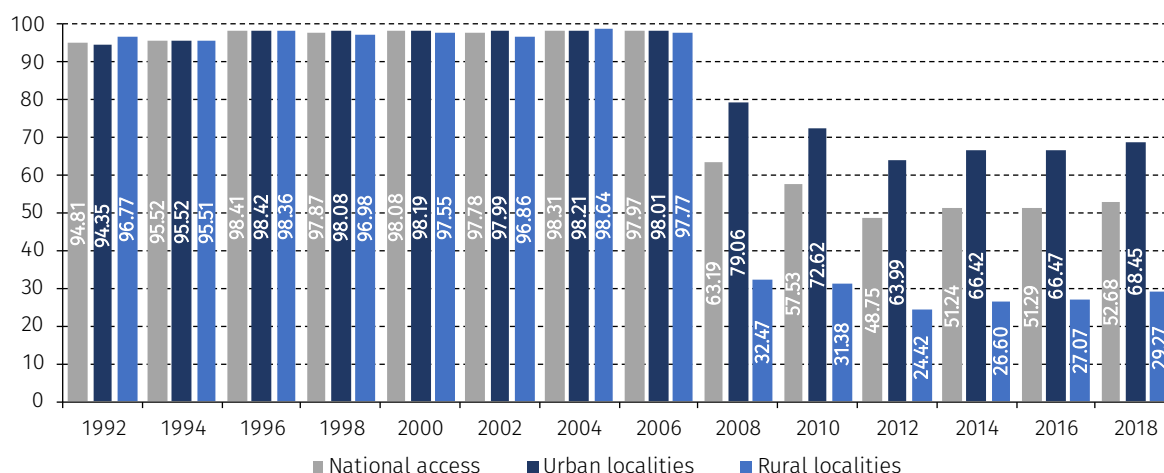*(Percentages of population with potential access)*
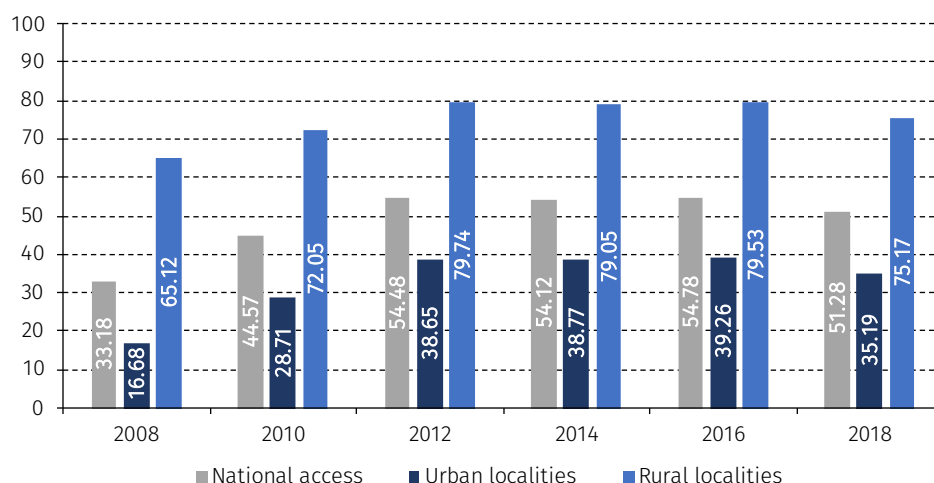
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.

However, potential access to health care through social security and Seguro Popular is different, owing to divergences in the services offered by those institutions. Considering that affiliation to the Seguro Popular covers only 14% of social security services, potential access to health falls from 82.88 to 49.97.[6] However, this chapter still calculates potential access to health using affiliation both to social security and Seguro Popular. In this way, comparisons are made easier. Subsequently, alternative calculations will be proposed to clarify the scope of the health reforms that began in 2003 and their effect on potential access.

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[5]   In both cases, the proportion is greater than 50% due to duplication of records in the surveys.
[6]   See Valencia and Jaramillo, 2023.

At the national level, potential access to health through IPPS-IC became an increasingly recurrent alternative between 2008-2018: this alternative was highly used in rural areas and relatively low in urban locations (see figure VIII.5). At the national level, potential access to health through these institutions increased steadily, reaching an average of 37% in the period 2008–2018. While, at the national level, potential access to health care through social security grew a little in those years (just 5 percentage points), potential access through IPPS-IC doubled (from 20% to 42%).

Figure VIII.5
Mexico: population with potential access to health care through Seguro Popular, by place of residence, 1992-2018
(Percentages of total population)
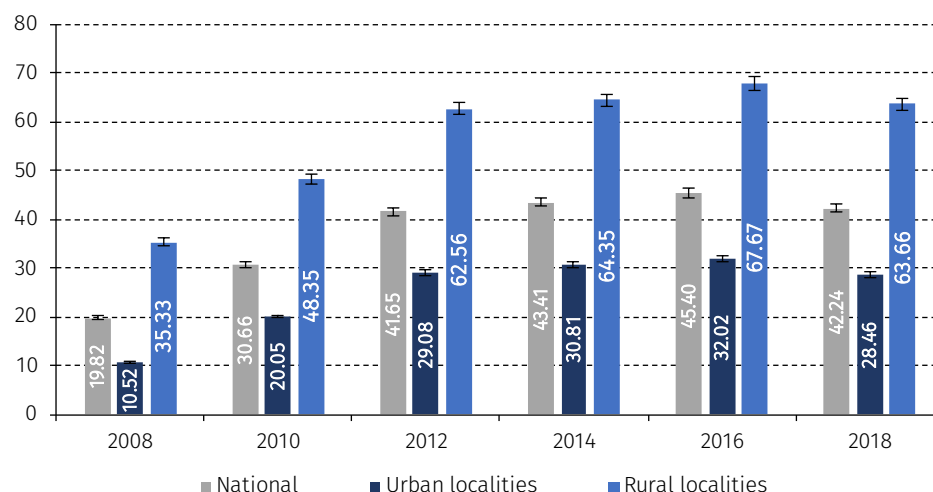
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 1992-2018.

By 2018, potential access to health care at the national level had two segmented options with differentiated rights, which were broader for social security and more restricted in IPPS-IC. As already mentioned, the long period of structural reforms did not create jobs with affiliation to social security, especially in the years under consideration (2008-2018). Instead, it instituted a form of potential access to health with limited rights (that expanded slightly as new treatments were incorporated into Seguro Popular). In terms of the progressiveness of rights, this means a non-negligible extension.

Compared with potential access to health through social security, potential access through IPPS-ICs is notably lower in urban areas and higher in rural localities. In the former, the average stood at 25% in the period 2008-2018. Although in urban localities, the potential access to health through IPPS-ICs, an option that did not exist between 1992 and 2002, remained lower, between 2008-2018, it became an alternative for those who did not have social security (exclusion of 45% in 2018).

But in rural localities, potential access to health through IPPS-IC grew very quickly. From not existing as an option between 1992 and 2002, it increased strongly, reaching an average of 57% of potential access between 2008- 2018. In this period, a very high proportion of the population in rural localities gained potential access through this programme, in the context of a great lack of protection from social security (exclusion of 75% in 2018). Thus, regarding potential access to health through IPPS-CIs, the average gap between the two types of localities was 2.4 times favourable to rural localities in the period 2008-2018 (and it may be said that this gap mirrors the gap in potential access to health through social security, which was 2.5 times favourable to urban populations). In this case, inequality is still observed in rural localities because some sectors remain unprotected and have lower potential access to health through IPPS-IC.

2.   Effective access to health

Another way to weigh progress in the right to health is to analyse effective access to health, with related indicators such as attention to health problems as reported by those interviewed in the ENIGH. Special attention must be given to individuals that reported health problems and received treatment in public institutions (when affiliated to them). In this section, effective access will be addressed in accordance with the methodological approach (and the effective access gap). Then, this section will address the characteristics of institutional care. This first approach to effective access nationwide will not omit the population that did not seek medical attention. Later on, the section will provide a precise indicator of effective access, built according to the methodological approach.

a)   Effective access to health in general

Generally speaking, effective national access to health keeps below potential access. This generates wide gaps, especially in terms of universality (see figure VIII.6). Between 2014 and 2018, effective national access stood at 69% (with a 31% gap in terms of effective universal care), while average potential access was 82% (with an 18% gap in terms of potential universal care). On average, between 2014-2018, 31% of the population did not have effective access to health, which indicates a significant increase in this gap when compared to potential access (see table VIII.2).

Table VIII.2
Mexico: effective access to health in a range of institutions, 2014-2018
(Percentages)

Medical institution	2014	2016	2018
Care in public institutions	58	51	49
Care in a social security institution (IMSS and ISSSTE)	25	22	24
Care in public institutions other than social security	31	28	25
Care in hospitals and centres of the Ministry of Health	30	26	23
Attention in other public institutions (PEMEX, Army, Navy, DIF, INI)	1	1	1
Care in the private sector	42	48	50
Care in hospitals and private practices	23	28	28
Care in doctor's offices in drugstores	16	17	19
Effective access to health (total)	68	70	69

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: The indicator of (total) effective access to health shows the proportion of the total population. See diagram 1 for more details on this calculation. Except for this indicator, other indicators show the proportion of care provided by an institution with respect to the total number of people who presented health problems and sought medical care in the year the ENIGH was taken. The indicator of care in the private sector includes private hospitals and clinics, doctor's offices in drugstores (data for which are specifically disaggregated), as well as healer, herbalists, midwives and other practitioners of traditional medicine (not disaggregated).

In urban locations, effective access (67%) is lower than the national average for urban potential access (81%). In consequence, there is a 33% gap in relation to effective universal care and a 19% gap when compared to potential universal care. Between 2014-2018, an average of 33% of the urban population did not have effective access to health care, which shows an increase of 14 points in relation to average potential care (in urban areas, the effective care gap in 2018 was 33%).

In rural localities, average effective access in the 2014-2018 period stood at 72%, the highest for those years (with a gap regarding effective universal care of 28%). But average rural potential access was 84% (with a 16% gap in potential universal care). Fundamentally, larger effective access is due to the Seguro Popular, whit its limitations in medical coverage, as has already been pointed out. All and all, between 2014-2018, an average of 28% of the population did not have effective access to health, which indicates a significant increase in this gap (also 28% in 2018), when compared to potential access. Weaknesses in effective access indicate that an important part of the reported health conditions was treated in private institutions.

Figure VIII.6
Mexico: population according to potential and effective access to health care, by place of residence, 2014-2018
(Percentages of total population)

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.

b)   Commodification of healthcare

Surveyees who responded to ENIGH between 2014–2018 were asked if and when they had had recent health problems and whether they sought attention and received it (INEGI, 2014–2018). In this period, about three-quarters (73% on average) of those who reported health problems sought care and practically all received it (see table VIII.3). Between 2014–2018, at the national level, there was a process of commodification of health care. Though the process affected urban populations, its larger effects were on the health problems of inhabitants of rural localities. Potential attention focused on affiliation to public health institutions could be accompanied by greater attention to health problems. In the Mexican case, the paradox was that the opposite occurred in 2014 and 2018. Together with the increase in affiliation to public health institutions, there is a constant process of commodification of health care (of those who sought care and were treated).

Table VIII.3
Mexico: population with health problems according to whether they sought care and received it, 2014-2018
(Percentages of total population)

	Health issue	Did not seek attention	Sought attention	Received attention
2014	61	28	72	99
2016	48	25	75	99
2018	49	27	73	100

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: Responses were accumulated in the years indicated in the date when the problem occurred.

In this period, an average of 53% of health problems reported in ENIGH were treated in public institutions and 46% in private hospitals and clinics. However, the process is more relevant than the proportions: in 2014, 58% of the problems were treated in public institutions and 42% in private ones. By 2018, public attention had fallen to 49%, and private treatment increased to 50%. It may be assumed that several barriers have gradually led a majority of respondents to seek help for their health problems outside public institutions.

What is indicated by the national average has spatial considerations, with differences in degree. The general process displays a greater commodification in rural areas. In the 2014–2018 period, an average of 49% of reported health problems in urban localities were treated by the public health system and 50% in private institutions. The trend towards commodification took place in urban spaces. In 2014 healthcare was greater in public institutions than in private ones (54% and 46%, respectively). In contrast, in 2018, the ratio was reversed (47% and 52%, respectively).

In those years, an average of 58% of reported health problems in rural localities were treated by the public health system and 41% in private hospitals and clinics. However, the commodification process in rural areas is more intense. At the beginning, in 2014, about one third (35%) of all cases were treated in private institutions and approximately two thirds (64%) by the public health system. By the end of 2108, both had similar numbers: 46% in private hospitals and clinics and 52% in public institutions (see figure VIII.7).

Figure VII.7
Mexico: attention to reported health problems by type of institution by place of residence, 2014-2018
(Percentages)
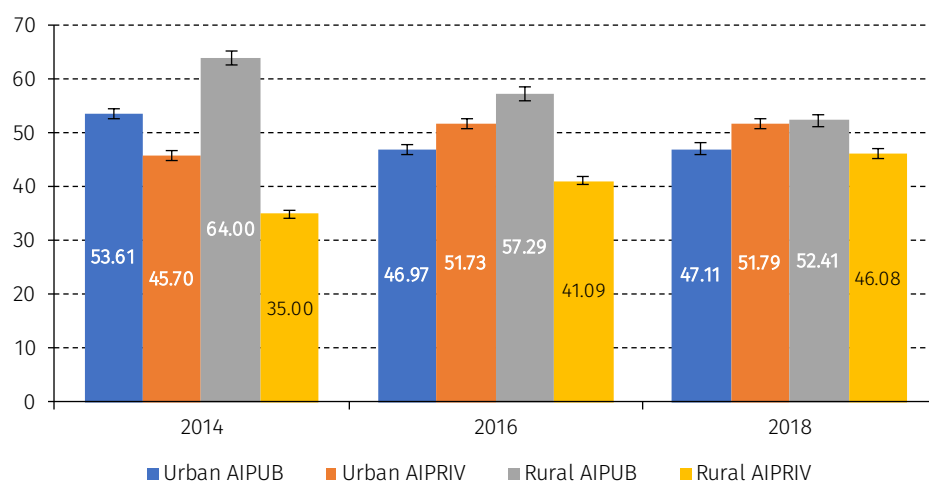
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: Urban AIPUB: care in public health institutions in urban localities. Urban AIPRIV: care in private institutions in urban localities. Rural AIPUB: care in public health institutions in rural localities. Rural AIPRIV: care in private health institutions in rural localities.

Several barriers to care in public institutions probably led the inhabitants of these localities to seek care in private institutions, which implies commodification. Once again, it can be confirmed that the growing limitations in the attention to health problems in public institutions affect the right to health. Thus, in urban localities where social security care predominates, a process of commodification took place. In rural localities, where IPPS-IC care predominates (with a very notable increase in affiliation as of 2003), a more intense process of commodification was experienced in the period 2014–2018. What are the characteristics of these processes by type of institution?

In general terms, the weakening of public care is greater in institutions linked to indirect contributions social protection than in social security institutions. At the national level, in 2014, public institutions were the most important recipient of reported health problems: 25% of them were treated by social security and 30% by the Ministry of Health. In that year, public institutions treated more health problems than private institutions (23% received treatment in hospitals and clinics and 16% in drugstores). In 2018, the situation changed, and private institutions became an increasingly important recipient of reported health problems, on par with public institutions (see figures VIII.8 and VIII.9).

Figure VIII.8
Mexico: decrease of treatment of health problems in public institutions, 2014-2018
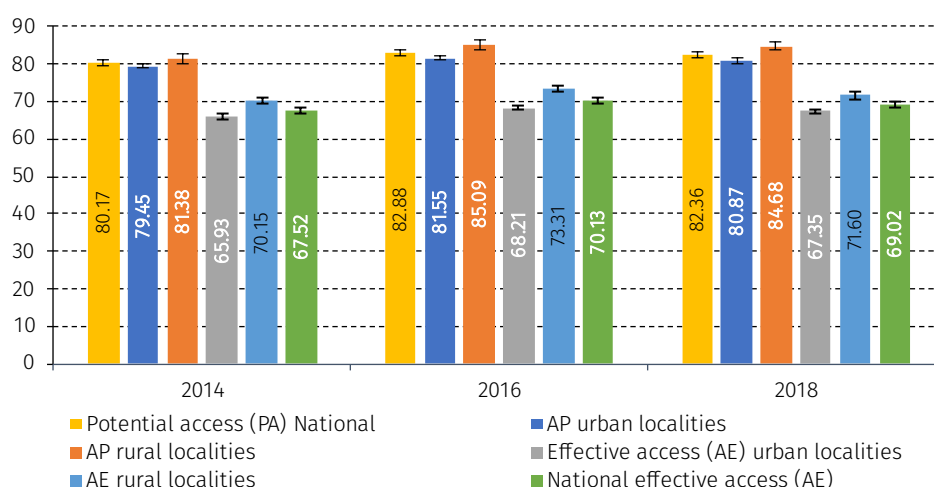*(Percentages)*
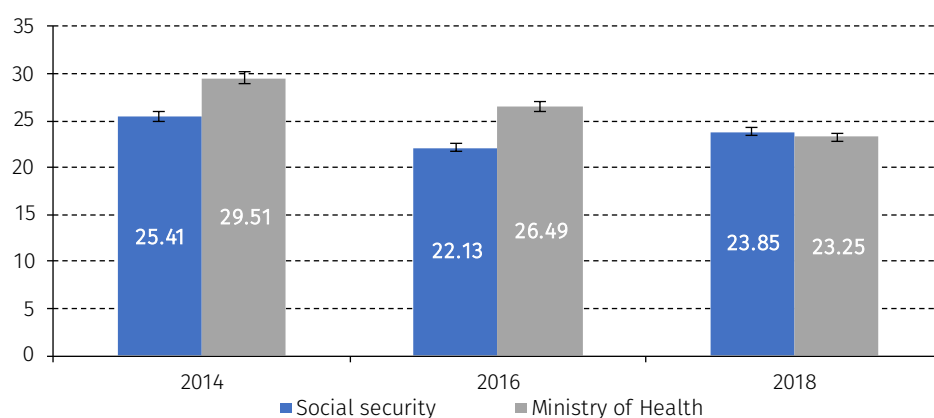
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: Social security: public social security institutions. Ministry of Health: health centres and hospitals of the Ministry of Health.

In this period, the constant observation was a reduction of care for health problems in public institutions while treatment in private institutions grew. Commodification is evident in the 2014–2018 period. Treatment in government institutions kept falling, with social security attending 24% of cases, and the Ministry of Health, 26% of them. Meanwhile, private attention was on the rise. Private clinics and hospitals treated 26% of cases, and doctor's offices in drugstores saw 17% of them (see figures VIII.8 and VIII.9). Barriers to addressing health problems are growing, especially in the institutions linked to the Ministry of Health, the core of treatment given by Seguro Popular in the 2014-2018 period.

Figure VIII.9
Mexico: increase of treatment of health problems in private institutions, 2014-2018
(Percentages)

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: These institutions treat the majority of private care, although not all of them (the questionnaire includes other care options, for instance, such as herbalists and other practitioners of traditional medicine).

In urban localities, there has been a decrease in care for health problems in social security institutions, with an average of 31% for 2014-2018. The same happened in the Ministry of Health, which in 2018 treated only 15% of the problems reported in urban localities, compared to 19% in 2014 (17% on average). Rural localities did not experience a reduction in social security care, but the proportion of

reported health problems treated by the Ministry of Health decreased. Attention to health problems in social security institutions averaged 13% in the period; However, the reduction in care provided by the Ministry of Health was notable —in 2018, it treated 36%, 9 percentage points less than in 2014 (42% on average).

3. Quality-effective access to health

a) Quality-effective access to health in public institutions

Citizens affiliate to either public or private healthcare institutions (and this generates potential healthcare). Then they may have health issues, seek attention and be treated in public (which generates effective care). Otherwise, they may have to pay for the services they receive in public institutions (which detracts from quality-effective access to health in public institutions). This section will focus on quality-effective care provided by public institutions. It does not touch on effective care in private institutions, which, by principle, entails payment for the services (as it is care in private commercial institutions).

The parameter included is free effective care in public institutions. Any form of payment for treatment (consultation services, medicines, laboratory studies, hospitalisation, medical instruments and others) in public institutions raises a barrier to free effective attention and, thus, is considered relevant for the purposes of this study. Quality care includes other elements (health problems that are solved, attention provided without long waits or long journeys, among others). The analysis takes a right-to-health perspective and focuses on attention provided by public institutions. One of the relevant elements in the quality of health care is the time invested in it. Thus, this aspect will be considered. Besides the waiting time before being treated, the time spent travelling to the receiving institution will be taken into account. It will be assumed that the more time invested in care, the lower its quality. In this case, the time invested in attention in private institutions will be included.

Effective access to public institutions decreased in 2014–2018 to such an extent that in the last year, it was already less than 50%, having dropped eight percentage points. Note the difference with potential access in 2018, which was greater than 80%. If access to public institutions for whose services people have to pay is deducted from effective access to public institutions, there is a sharp decrease in quality-effective access. Thus, in 2014 only about a third of the population had this kind of access, which has two essential characteristics: first, the real effectiveness of the free care obtained, second, free attention. By 2018, it had already fallen to 27.7%. In these three years, quality-effective access was 29.5% on average (see figure VIII.10 and table VIII.4). The gap in relation to the universality of quality-effective care thus increased while Seguro Popular existed (with an average 71% gap in 2014–2018).

Figure VIII.10
Mexico: population with access to quality-effective access to health in public institutions, 2014 -2018
(Percentages)
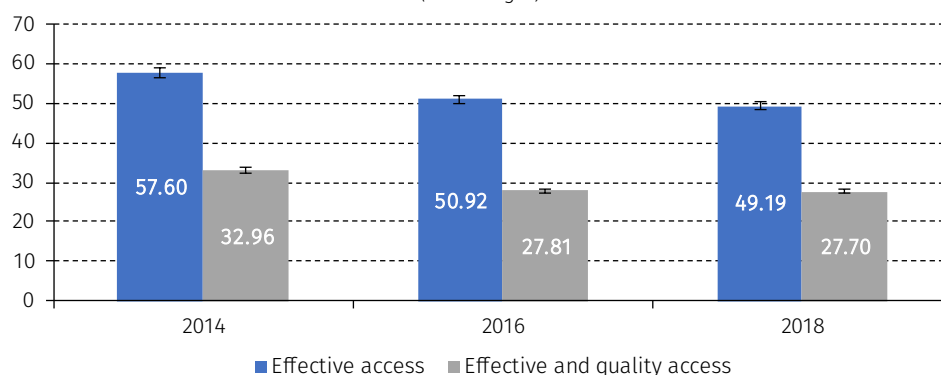
■ Effective access ■ Effective and quality access

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), *National Survey of Household Income and Expenditure (ENIGH)*, 2014-2018.
Note: To make it possible to compare the figures for "effective access" and "quality-effective access", both indicators have the same denominator. The "effective access" indicator refers to public institutions and indicates people who sought medical attention and were effectively treated in public institutions. It differs from the "effective access" indicator shown in figure VIII.6 since it does not omit the population that did not seek medical attention, so its denominator is the total population. Thus, the indicator for "quality-effective access" (in public institutions) is based on the same denominator but omits the population that had to pay for medical services.

Table VIII.4
Mexico: quality-effective access to health care in a range of institutions, 2014-2018
(Percentages)

Medical institution	2014	2016	2018
Quality-effective access to health (total)	33	28	28
Percentage of care that was paid for			
Social security institutions	3	4	4
Institutions other than social security	20	21	25
Private sector	93	94	95
Average number of minutes it took to travel and get attention for a health problem			
Total average	87.4	89.5	86.5
Social security institutions	114.5	122.8	114
Institutions other than social security	105.2	105.9	101.6
Private sector	52.3	54.9	54.3

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: The indicator of (total) effective access to health shows the proportion of the total population. See diagram VIII.1 for more details on its calculation. The percentage of paid services in public institutions was calculated with respect to the total number of cases treated by an institution. The indicators of minutes spent getting to a health institution and waiting for attention were calculated with respect to the total number of cases treated by an institution.

       Quality-effective access in this period is similar at the national level and in urban and rural localities. In the first place effective access in urban localities decreased (49.2% on average) and the gap in terms of universality of effective care increased (50.8% on average). Effective access to public institutions in rural localities fell more sharply, standing at an average of 58% in the 2014-2018 period. In rural localities, the decrease in public attention contrasted with an increase in private access. The universality gap in rural localities also increased to 47.6% in 2018 (see figure VIII.11). By observing effective access, it can be seen that the increase in potential care and the corresponding reduction of the universality gap was not maintained, with a greater relative deterioration in rural locations.

Figure VIII.11
Mexico: population with quality-effective access in localities by place of residence, 2014-2018
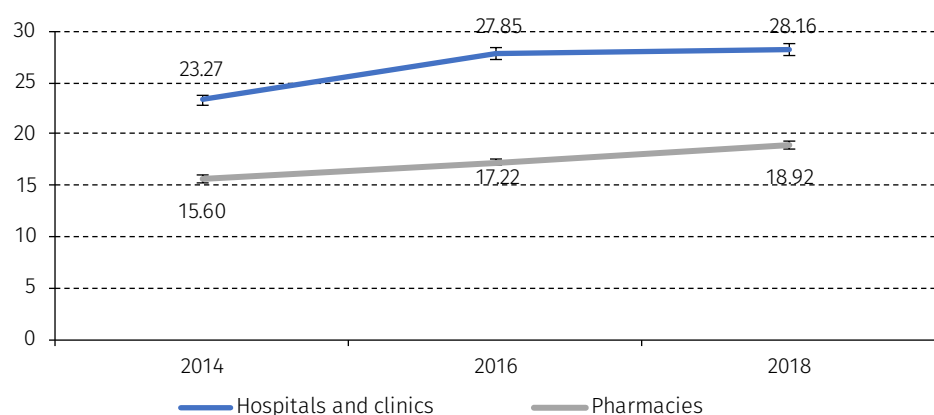*(Percentages)*
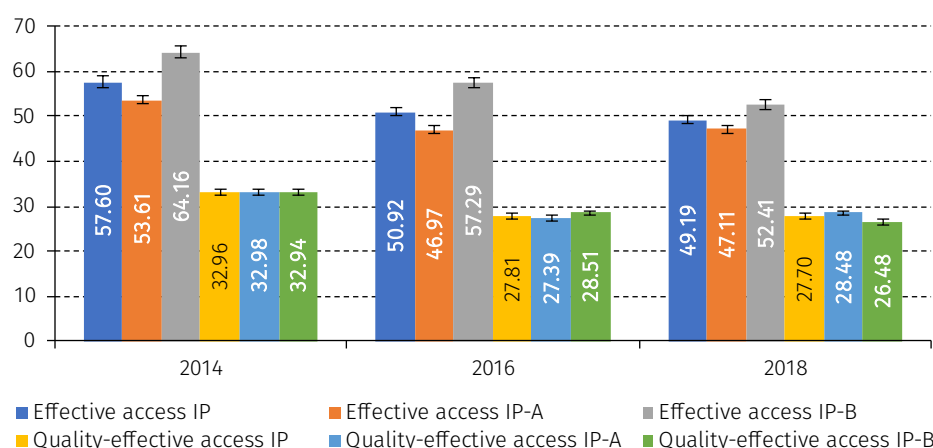
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: Effective IP access: effective access to public institutions. Effective access IP-A: effective access to public institutions for urban populations. Effective access IP-B: effective access to public institutions for rural populations. Effective and IP quality access: quality-effective access to public institutions. Effective and quality access IP-A: quality-effective access to public institutions for urban populations. Effective and quality IP-B access: quality-effective access to public institutions for rural populations.

Second, if access to public institutions for whose services people have to pay is considered and subtracted from effective access to public institutions, the result is a sharp decrease in quality-effective access. Thus, in urban localities, it dropped to an average of 29.7%, with a growing gap in terms of universality (70.3% on average in the period). In rural localities, it fell even more, from 32.9% in 2014 to 26.5% in 2018, averaging 29.3% in the period, with a larger universality gap (70.7%) (see figure VIII.11). The aforementioned narrow gaps in potential care, which stood around 20% in 2018, the last year of Seguro Popular, should be taken into account. The smallest of these gaps appeared in rural localities.

After 15 years of changes in public health institutions and a large increase in enrolment to IPPS-ICs, there were remarkable gaps of more than 70% in quality-effective access to public institutions. Institutional reforms were not enough to achieve more quality-effective access in the last years of the Seguro Popular. Neither was mass affiliation to IPPS-ICs was not enough and affiliation to social security relatively stagnated. While affiliations grew, paying for medical services of public institutions also became more common. These payments may be characterized as institutional insufficiencies or inefficiencies. Despite the optimism shown by several evaluations and analyses, the increase in potential access (a process supposedly tending towards universal coverage) came together with severe institutional insufficiencies that appeared in times of the new rurality. If inequalities in rural localities are taken into account, variations in quality-effective access are observed. However, in almost all the sectors considered, gaps in universality are greater than 65%.

b)   Care for health issues with payment for services in public institutions

Persons interviewed in the ENIGH from 2014 to 2018 increasingly reported expenses for the services received in public health institutions (payment for consultation services, medicines, laboratory studies, hospitalisation, medical instruments and other services). This happened in social security and Ministry of Health institutions. In 2014, almost one in five people treated in institutions of the Ministry of Health reported paying for the services received (19.7%). In 2018, one in four people (24.6%) reported making payments (see figure VIII.12). Less often, people treated in social security institutions also reported having paid for services: 3% in 2014 and 4.4% in 2018. Thus, the free approach of public health institutions weakened and the proportion of people with quality-effective access is reduced. This is questionable from the more demanding parameter of the human rights approach (see table VIII.4).

Figure VIII.12
Mexico: population treated in public health institutions who paid for services, 2014-2018
(Percentages)
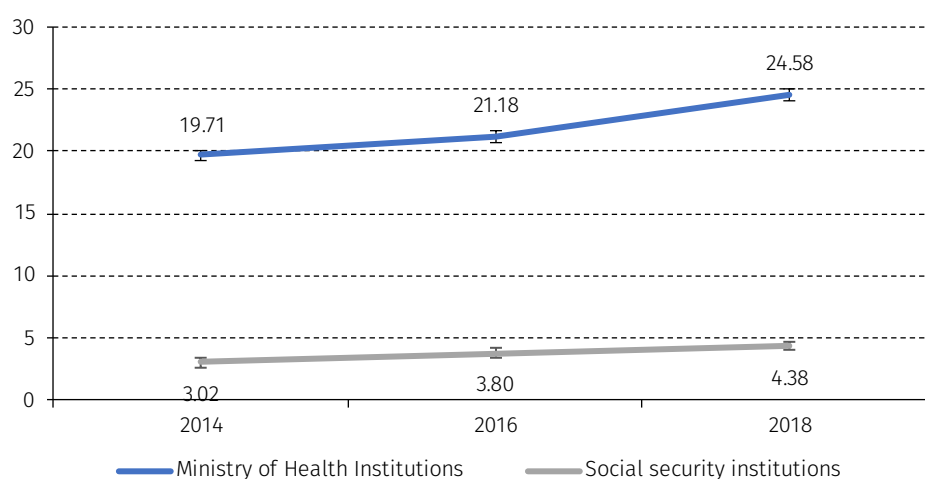
Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.

In the 2014-2018 period, the proportion of the urban population who had to pay for medical services provided by institutions of the Ministry of Health was higher than in rural localities: 24% compared to 20.4%, respectively. In those years, the proportion showed an upwards trend. Once again, both in urban and rural areas, some of the people interviewed stated that they had paid for health services in social security institutions. There was a growing trend for this answer, especially in rural localities (see figure VIII.13).

Figure VIII.13
Mexico: population treated in public health institutions and who paid for the services by place of residence, 2014-2018
(Percentages)
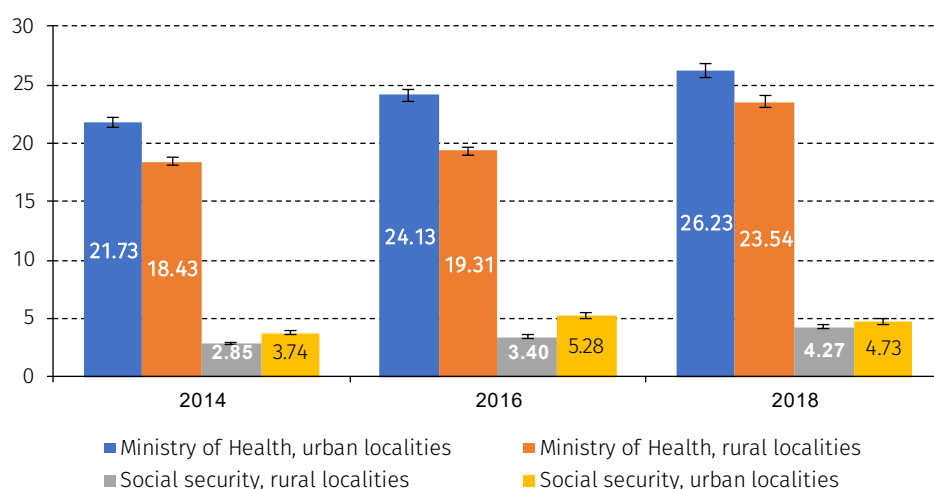
■ Ministry of Health, urban localities   ■ Ministry of Health, rural localities
■ Social security, rural localities   ■ Social security, urban localities

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure (ENIGH), 2014-2018.
Note: Ministry of Health, urban localities: care in institutions of the Ministry of Health for people in urban areas. Ministry of Health, rural localities: care in institutions of the Ministry of Health for people in rural areas. Social security, urban localities: care in social security institutions for people in urban areas. Social security, rural localities: care in social security institutions for people in rural areas.

The increase in payments for health services provided by public institutions, which were relatively more numerous in Ministry of Health institutions of rural localities, brought a constant decrease in quality-effective care and an increase in universality gaps. Without any doubt, there are other elements of quality care that complement those mentioned so far. Among those elements, the time invested in caring for health problems is very important. In rural localities, reported payments for care for health services in public institutions were also differentiated according to sectors.

c)   Time invested in health issues attention

People enjoy higher-quality care when they do not need to invest too much time getting to a health institution and waiting before being seen by a health professional. On the contrary, longer travel and waiting times (elements of the availability and accessibility dimensions) can put at risk the exercise of the right to health. In this regard, people interviewed in the ENIGH between 2014 to 2018 reported an average of time invested close to an hour and a half (88 minutes). However, the diversity among institutions is remarkable: on average, 117 minutes in social security, 104 minutes in the Ministry of Health and only 54 minutes in private institutions. The differences in time for attention to health problems show larger investments of time in rural localities when compared to urban ones and the national average.

Certainly, rural localities spend more time addressing these problems, and, on average, they used more than an hour and a half in 2018 (95 minutes), 17% more than the time used in urban areas (81 minutes). Rural inhabitants invested less time in the institutions of the Ministry of Health (just over an hour and a half, on average, 99 minutes). However, even in private institutions, rural residents spent more time in 2018 (68 minutes, 45% more than in urban locations). The same happened in social security institutions in the same year (121 minutes, 8% more than in urban areas). Rather remarkable is that vulnerable sectors of rural localities spent even more time addressing health problems.

C.   Conclusions

Since the mid-eighties and until the end of the second decade of the 21st century, the Mexican rural world experienced deep transformations of the State's role in agricultural policy, the greater presence of markets and international insertion with open trade. The expected outcome of this transformation was a liberalized, unregulated, modernized and competitive agricultural sector, open to trade and to national and international private investment, with more options for economic activities and less poverty, mainly due to investments in human capital. Once transformed, this rural sector would have enjoyed universal access to protection systems and provided financial and health services with greater social security. Those without affiliation to social security would have had access to a new protection system, which included a limited but growing package of services. Social inequality would diminish, thanks to narrower health gaps.

This chapter analysed health gaps in rural Mexico within the new rurality framework in the aftermath of the transformation mentioned above. After the market reforms and social policies of the last decades, the image of the rural world is more complex than expected. Especially in the second decade of the 21st century, some academic and political circles saw a rural world that was moving towards universal access to health services and, thanks to the reforms begun in 2003, narrowed gaps in relation to the urban world.

This chapter questions such an optimistic image and shows the existence of large gaps in access to health in the rural sector. In the rural world, there is a process of growing commodification of health care. This process is paradoxical because rural affiliation to public health institutions has also increased (especially affiliation to IPPS-ICs, as affiliation to social security is still quite low).

Thus, if commercial health care (or payments made for services provided by public institutions) is not taken into account and the analysis concentrates on free attention in public health institutions (quality-effective care), the result is remarkably different: in 2018, there was just 26% of quality-effective access in rural localities. In other words, there is a 74% gap in terms of effective universal access to quality health services (a little greater than the 72% urban gap). This finding is confirmed by the growing percentage of people with health problems in rural localities who report having made payments for services provided by public institutions, such as social security (5% in 2018) and the Ministry of Health (24% in 2018). Though these high proportions are similar to those in urban locations, in rural areas, people have to spend more time seeking attention for their health problems.

By incorporating quality-effective access into the discussion, it gets clear that, after several decades of market reforms, the rural world still lies far from the most demanding standard of rights, which envisages equal free services for all and everyone enjoying the same status of social citizenship rights in public institutions. Potential access seems high and growing (85% in 2018). As a whole, effective access seems to be considerable (72%), and a majority of the population seems to have effective access to public institutions (52%). However, these figures may be no more than the illusion of the right to health, as rural populations actually enjoy it. From the human rights standard, this is a questionable situation.

Bibliography

Arias, P. (2002), "Hacia el espacio rural urbano; una revisión de la relación entre el campo y la ciudad en la antropología social mexicana", *Estudios demográficos y urbanos*, vol. 17, No. 2.

Carton de Grammont, H. (2004), "La nueva ruralidad en América Latina", *Revista Mexicana de Sociología*, vol. 66, special issue.

Dirven, M. and D. Candia (2020), "Medición de lo rural para el diseño e implementación de políticas de desarrollo rural", *Documentos de Proyectos* (LC/TS.2020/25, LC/MEX/TS.2020/4), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Fajardo-Dolci, G., J. P. Gutiérrez and S. García-Saisó (2015), "Acceso efectivo a los servicios de salud: operacionalizando la cobertura universal en salud", *Salud Pública de México*, vol. 57, No. 2.

Gaudin, Y. (2019), "Nuevas narrativas para una transformación rural en América Latina y el Caribe. La nueva ruralidad: conceptos y medición", *Documentos de Proyectos* (LC/TS.2019/45-LC/MEX/TS.2019/9), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

INEGI (National Institute of Statistics and Geography) (1992-2018), National Survey of Household Income and Expenditure (ENIGH) [online] https://www.inegi.org.mx/default.html.

Kay, C. (2009), "Estudios rurales en América Latina en el período de globalización neoliberal: ¿una nueva ruralidad?", *Revista Mexicana de Sociología*, vol. 71, No. 4.

OECD (Organisation for Economic Co-operation and Development) (2007), *Rural Policy Reviews: Mexico 2007*, Paris.

RAE (Real Academia Española) (2014), Diccionario de la Lengua Española, Madrid [online] https://dle.rae.es/rural?m=form [date of reference: 12 September 2021].

Unikel Spector, L. (1973), "La información sobre población urbana y rural y migración", *Estudios demográficos* y urbanos, vol. 7, No. 3.

Valencia, E. and M. E. Jaramillo (2023), "Brechas de acceso a la salud en México, en el marco de la nueva ruralidad", *Project Documents* (LC/TS.2023/25-LC/MEX/TS.2023/2), Mexico City, Economic Commission for Latin America and the Caribbean (ECLAC).

Chapter IX
Incorporation of indigenous ethnicity into Mexico City's administrative records

Sandra Huenchuan

Introduction

There is a widely accepted global consensus concerning the need for available disaggregated data. The international human rights doctrine and the 2030 Agenda for Sustainable Development have significantly contributed to meeting this requirement and have provided the Member States of the United Nations with guidelines for this matter. Disaggregated data makes information available by indigenous ethnicity.[1] As stipulated by Treaty Bodies and is emphasized by the Sustainable Development Goals, notably Target 17.18. The disaggregation of data by ethnic origin is justified in both cases because it allows a deeper analysis of the inequality gaps in Indigenous Peoples and, hence, better work towards eradicating such gaps.

Data disaggregation by indigenous ethnicity is a significant step towards full compliance with the international obligations and commitments taken on by countries. Disaggregation demands a colossal task for governments, which must change their legal and institutional frameworks, strengthen technical competencies and banish discrimination from everyday practice. Though available data sources from which to obtain data disaggregated by ethnicity are well-known,[2] administrative records have not been well studied and, excepting vital records, experiences in the region have not been fully systematized.[3]

This study aims to reduce the gaps in the statistical visibility of Indigenous people through Mexico City's administrative records. Mexico City was selected because of its multi-ethnic population of over 800,000 people who identify themselves as Indigenous[4] and because 55 out of the 68 Indigenous languages of the country are spoken there. The city also has a legal framework that makes it mandatory for administrative records to generate disaggregated data that identify indigenous persons. The Political Constitution of Mexico City and its regulatory laws, particularly the Resident Indigenous Peoples and Communities Act, are critical elements of this framework, complemented by the Social Development Act's rules and regulations and the Digital Innovation and Operations Act.

Also, Mexico City stands out in the regional scenario for its social development policies, whose construction has been ongoing since 1997, when the first local government reached power through an election. As a result, the universal social programmes now operating throughout the country were implemented first in this city. The conjunction of these characteristics makes Mexico City a particularly interesting case for analysis. Moreover, the city's experience may provide a basis to improve practices in the country and abroad.

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[1]   The term "ethnicity" is used following Target 17.18 of the Sustainable Development Goals and the recommendations issued by Human Rights Treaty Bodies.
[2]   See Acosta and Ribotta (2022).
[3]   See ECLAC/PAHO/UNFPA (2021).
[4]   To picture the numerical importance of indigenous persons in Mexico City, consider that 896,000 individuals described themselves as Indigenous in the 2010 National Census of Brazil.

This study was conducted by analysing documents and interviewing key informants. The records under analysis include the reviewed international framework for human rights, the criteria used by several Human Rights Treaty Bodies of the United Nations to generate disaggregated statistical information and the specific international standards and guidelines to disaggregate statistical information regarding Indigenous peoples. The study also closely examines Mexico City's social policy legal framework, its regulatory improvement, its data management and digital government policies, and the forms and instruments used by the government to provide services to citizens and to manage its social policy instruments.

This study analyses social programmes and actions by reviewing the operation rules and the specific norms that determine the criteria, sections, content and characteristics of government forms and questionnaires. The study also consulted the local government services website, which contains relevant information on the types of beneficiaries, the requirements to obtain benefits, the location of the offices where these are requested and, in some cases, the forms and questionnaires used to decide who is entitled to the services. The study also collected information on social programmes and actions in several of Mexico City's government bodies and autonomous agencies. Key government actors in the overall city and borough (*alcaldía*) administrations were interviewed to determine how their respective offices collect and record information. They were also asked their opinion about the recording system's usefulness in identifying indigenous persons in their target population and providing services for them.

This chapter is structured as follows: First, it systematically presents the international legal and political standards and frameworks applied to include the indigenous ethnicity variable in administrative records, thus allowing the generation of disaggregated data to identify, document and analyse the structural gaps that prevent indigenous persons and communities from fully realizing their human rights. Second, using Mexico City as a case study, it examines how information on indigenous ethnicity is registered by several social policy instruments and recorded in forms and questionnaires used by different public services the city provides. Finally, this chapter produces conclusions and recommendations focused on harmonizing the concepts and methods for generating data on indigenous ethnicity in Mexico City.

A.   International standards for registering indigenous ethnicity in administrative records

The challenge of generating disaggregated statistical information has two primary sources: the legal obligations stemming from human rights international treaties and the international political commitments related to the Sustainable Development Goals (SDGs). This section systematically presents the international legal and political standards and frameworks used to register indigenous ethnicity in administrative records, thus generating disaggregated data that identify, document, and analyse the structural gaps that prevent the full realisation of human rights, especially in indigenous persons and communities.

1.   Human rights and disaggregated data

a)   Disaggregated data as a human rights issue

The disaggregation of statistical data may be considered as a human rights issue related to principles of non-discrimination, non-regression and progressive realisation of human rights and the right to access public information.

Article 2 of the Universal Declaration of Human Rights establishes that: "Everyone is entitled to all the rights and freedoms proclaimed in this Declaration, without distinction of any kind such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status" (Naciones Unidas, 1948). Several treaties and other human rights instruments specify this prohibition against discrimination. Compliance with this precept obliges States to disaggregate social, economic and demographic data according to the above mentioned distinctions.

States must adopt internal measures that guarantee the realisation of human rights. Disaggregated data identifies discrimination and inequality patterns, detects gaps and implements, monitors and evaluates public policy. When States fail to produce disaggregated data, they breach their duty to observe human rights because any lack of disaggregation hampers the attention given to discriminated groups.

As stated in Principle 1 of Resolution 68/261 of the General Assembly of the United Nations, statistics

"provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data on the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information" (United Nations, 2014, p. 2).

b) Data disaggregation in human rights treaty bodies

Several human rights treaty bodies require Member States to present periodic reports containing enough disaggregated data and statistics to evaluate the progress made in exercising human rights recognized by the treaties. In addition, international human rights instruments, such as the United Nations Convention on the Rights of Persons with Disabilities and the Convention on the Elimination of All Forms of Discrimination Against Women, expressly mention the obligation to generate information.

The Harmonized Guidelines on Reporting Under the International Human Rights Treaties, approved in 2009, expressly prescribe the obligation of States to present disaggregated data. Paragraph 26 states that:

"reports should provide relevant statistical data, disaggregated by sex, age and population groups, which may be presented together in tables annexed to the report. Such information should allow comparison over time and should indicate data sources. States should endeavour to analyse this information insofar as it is relevant to the implementation of treaty obligations" (United Nations, 2009, p. 8).

Table IX.1 shows the recommendations made by the Treaty Bodies that insist on the need to disaggregate data, particularly by ethnicity.

Table IX.1
Recommendations of treaty bodies on data disaggregation

Treaty body	Recommendation
Committee on Economic, Social and Cultural Rights (CESCR)	In its Final Observations, the CESCR requests its Member States to provide comparative annual statistics and data on the exercise of each of the rights established in the Convention, the application of laws and the practical results of any plans, programmes or strategies concerning them. The data must be disaggregated by age, sex, ethnicity, rural or urban population, socioeconomic situation and other pertinent characteristics.
Committee on the Elimination of All Forms of Discrimination Against Women (CEDAW)	The Committee recommends implementing unified systems that periodically collect statistical data disaggregated by sex, age, race, ethnicity, geographical location and socioeconomic circumstances. Disaggregation of information extends to migratory status, asylum seekers, refugees and persons with disabilities, and it must express sexual orientation and gender identity and all other aspects considered by the Convention in the public and private spheres, such as education, employment and health. It also recommends developing measurable indicators to evaluate trends in the situation of women.

Treaty body	Recommendation
Committee on the Rights of Persons with Disabilities (CRPD)	The Committee recommends that States systematize, collect, analyse and publish data on the situation of persons with disability. The data must be disaggregated according to sex, age and kind of disability, existing barriers, ethnicity and geographical location. They must also show the type of residence or institution and cases of discrimination or violence against these people. The Committee also exhorts States to mind the links between Article 31 of its Convention and SDG Target 17.18.
Committee on the Rights of the Child (CRC)	The Committee emphasizes the need to disaggregate all the collected data to identify actual or potential discrimination. One of the positive measures that States should implement consists of collecting disaggregated data and developing indicators to determine the spheres in which Indigenous children suffer or may suffer discrimination.
Committee Against Torture (CAT)	The Committee recommends that the Member States issue reports that include data disaggregated by age, gender and other factors essential to properly evaluate the application of its Convention. Disaggregated data allow the Member States and the Committee to determine and compare otherwise unnoticed discriminatory treatments and to adopt corrective measures.

Source: Prepared by the author, on the basis of Committee on Economic, Social and Cultural Rights (CESCR), *Observaciones finales para Brasil*, 2009; Committee on the Elimination of Discrimination against Women (CEDAW), *Observaciones finales del Comité para la Eliminación de la Discriminación contra la Mujer* (CEDAW/C/PAN/CO/7), Panamá, 2010 [online] https://www.acnur.org/file admin/Documentos/BDL/2010/7807.pdf, and *Observaciones finales del Comité para la Eliminación de la Discriminación contra la Mujer* (CEDAW/C/BRA/CO/7), Brazil y Geneva, 23 March 2012; Committee on the Rights of Persons with Disabilities (CPRD), *Observaciones finales sobre el informe inicial de Chile* (CRPD/C/CHL/CO/1), Geneva, 2016; Committee on the Rights of the Child (CRC), *General Comment N° 11 (2009), Indigenous children and their rights under the Convention* (CRC/C/GC/11), Geneva, 2009; Committee Against Torture (CAT), *Observación General Núm. 2: Aplicación del artículo 2 por los Estados Parte* (CAT/C/GC/2), Geneva, 2008 [online] https://www.ohchr.org/es/documents/general-comments-and-recommendations/catcgc2-general-comment-no-2-2008-implementation.

2.   Statistical invisibility of Indigenous peoples and the right to be counted

Data are one of the United Nations' specialised agencies' major concerns regarding Indigenous people. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) communicates the duty of States to reflect cultural diversity in their information sources adequately. In terms of Indigenous demands, this is summed up as "the right to be counted" (Axelsson, 2018).

The United Nations Permanent Forum on Indigenous Issues (UNPFII) considers that a lack of data is a significant barrier to its work and the work of the United Nations in general. Therefore, in 2004, it organized a workshop of experts to consider this situation (UNPFII, 2004). Those experts underscored that governments are primarily accountable for ensuring the collection of disaggregated data and that it is urgent to use public registries and vital statistics systems as additional sources of statistical data on Indigenous peoples (see box IX.1).

Box IX.1
Workshop recommendations on the collection and disaggregation of data on Indigenous Peoples

- Include questions about Indigenous identity whenever collecting data, but without failing to uphold the principle of self-identification. Whenever criteria are set, it is important to include the local Indigenous peoples to precisely capture their identity and socioeconomic circumstances. It is advisable to have normalized long-term data based on this principle.

- Data collection concerning Indigenous peoples should always follow the principle of free consent at all levels. It should always consider the fundamental principles of official statistics, as established by the Statistical Commission of the United Nations Economic Commission for Europe in its 1994 Decision C (47) and by the collective rights of Indigenous peoples.

- Regarding Indigenous peoples that voluntarily live in isolation, data collection activities should not be used to force them to make contact.

- Information should be gathered per human rights and fundamental freedoms provisions. Data collection should observe the laws that guarantee the protection of data and must respect privacy and confidentiality.

- Indigenous peoples should participate fully and under equal conditions in all stages of data collection, especially during its planning, execution, analysis, publishing, accessing and responding. To that end, they should have sufficient resources and adequate competencies.

- Data collection should respond to the priorities and goals of Indigenous peoples. The participation of Indigenous communities in the conception and execution of data collection activities and the subsequent production and diffusion of reports is of utmost importance at national and international levels.

- Institutions that collect data at national and international levels must train and employ personnel who belong to Indigenous peoples. The data collection process is fundamental for the empowerment of communities and for determining their needs.

- Data collection activities should be conducted in local Indigenous languages whenever possible. When a written language does not exist, local Indigenous peoples should be called upon (as translators, interpreters and advisers) to help with the collection process.

- Indigenous peoples have the right for all data (primary and aggregated) to be shared with them for their own use. The confidential nature of the data must always be kept in mind.

- Quantitative and qualitative data should be combined to render a full view of the circumstances of Indigenous peoples.

Source: Prepared by the author, on the basis of Human Rights Commission of New Zealand, A *fair go for all? Addresssing Structural Discrimination in Public Services,* 2012 [online] https://www.hrc.co.nz/files/2914/2409/4608/ HRC-Structural-Report_final_webV1.pdf; and P. Pelletier, *La "discriminación estructural" en la evolución jurisprudencial de la Corte Interamericana de Derechos Humanos*, San José, Costa Rica, Inter-American Institute of Human Rights (IIHR), 2014.

Seeking to enforce the UNDRIP (the final document from the 2014 World Conference on Indigenous Peoples adopted by the General Assembly of the United Nations held on 22 September 2014), the Member States committed themselves to "working with Indigenous Peoples to disaggregate data or conduct surveys, as appropriate, and to utilizing holistic indicators of Indigenous peoples' well-being to address the situation and needs of Indigenous peoples and individuals, in particular older persons, women, youth, children and persons with disabilities" (United Nations, 2014).

Meanwhile, the United Nations Statistics Division asserts that complete, precise and reliable data can help Indigenous communities make objective evaluations of their life conditions and insists on providing them with the information they need to defend or help develop programmes and policies that affect them, including those related to health systems, economic production models and social and environmental management. It affirms that publishing and circulating disaggregated data also contributes to identifying the trends and causes of inequality and measuring the effectiveness of existing programmes and policies (Statistics Division, 2017).

The Special Rapporteurs on the Rights of Indigenous Peoples of the Human Rights Council have also mentioned the lack of disaggregated data regarding Indigenous peoples' demographic, social, economic and political situation. In her 2014 Annual Report to the Human Rights Council, the Special Rapporteur called on the invisibility of the situation of Indigenous peoples and disaggregated data. According to the Rapporteur, indicators must be an aid to detect discrimination, inequality and exclusion while allowing a comparison between Indigenous peoples and other population groups. She also indicated that specific indicators are needed to reflect essential aspects of freely determined development, such as the situation and trends of Indigenous languages, security in land tenure, territory and resources and the recognition of customary law and the autonomy of Indigenous governance

institutions. The Rapporteur also pointed out the limitations of existing data, which provide little information on the attributes of all rights related to the right of self-determination (United Nations, 2014).

3.   "Leave no one behind". Sustainable Development Goals and disaggregated data

a)   SDGs and disaggregated data

Since the start of the 21st century, a manifest interest has grown in disaggregated data on general human rights, Indigenous peoples' rights in particular. To that end, adopting the 2030 Agenda for Sustainable Development represents a crucial milestone. The agenda —with the motto "Leave no one behind"— is intimately linked to human rights obligations and emphasizes the value of disaggregated data when measuring the progress achieved in meeting SDG targets. Specifically, Target 17.18 lays down the commitment to "[by 2030] increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts" (OHCHR, 2018a).

That is, they must provide a level of granularity and disaggregation that makes the most vulnerable and marginalized people visible (Asian Development Bank, 2021), without conforming with presenting averages. Data disaggregation adds an important dimension to the national reports concerning implementing the 2030 Agenda by emphasizing horizontal inequalities between countries. It is also helpful to identify policy priorities that could improve performance towards meeting the SDG targets because a substantial portion of the population lags behind average indicators, which is usually the case for discriminated groups.

b)   SDGs and Indigenous Peoples

The general objective of the 2030 Agenda is to reduce inequalities. This objective especially concerns Indigenous peoples since practically all of them are at a disadvantage compared to other population sectors (UNPFII, 2016). Several of the 17 Sustainable Development Goals and their targets focus on Indigenous peoples and are directly related to the human rights commitments in the UNDRIP or Convention 169 on Indigenous and Tribal Peoples of the International Labour Organization (UNPFII, 2016). In particular, four targets explicitly include the Indigenous peoples (2.3, 4.5, 10.2 and 17.18), though deeper analysis evidences that 63 out of 169 targets have substantial links with the UNDRIP (see diagram IX.1).

Diagram IX.1
Links between Sustainable Development Goals and the United Nations Declaration on the Rights of Indigenous Peoples

Source: Prepared by the author, on the basis of The Danish Institute for Human Rights, "The Human Rights Guide to the Sustainable Development Goals", 2018 [online] http://sdg.humanrights.dk/en.

Similarly, the world SDG global indicator framework produced by the United Nations responds to some of the issues concerning Indigenous peoples. One example is the indicator that allows the follow-up of the income of small-scale food producers, disaggregated by Indigenous ethnicity. Another indicator measures Indigenous peoples' access to education compared to the rest of the population. Finally, the indicator on the security of land rights will emphasise collective tenure rights, a critical element of the collaborative relationship that Indigenous peoples keep with their land, territories and resources.

c)   Disaggregated data on the SDGs and Indigenous peoples

Despite recognizing the vital role played by indigenous ethnicity in configuring the welfare of indigenous persons and communities, the availability of data, in general, is still limited and further statistical efforts are necessary (OHCHR, 2018b). In October 2015, the UNPFII Secretariat held a meeting of experts to discuss the road ahead for Indigenous peoples regarding the 2030 Agenda. During the meeting, participants emphasised that data disaggregation by indigenous ethnicity would be crucial to measure the progress of implementing the agenda. They pointed out that when data could not be disaggregated by indigenous ethnicity due to political or other motives, other variables or categories might be used, such as, for example, geographical region, forbidden reasons for discrimination or languages (UNPFII, 2016).

They also recommended developing the research capabilities of the national statistical agencies and government bureaus charged with Indigenous peoples' affairs to report Indigenous peoples' priorities, disaggregate data and measure the progress made by Indigenous peoples toward the SDGs. This recommendation pursues the creation of methodologies to follow up local-level indicators to prepare parallel reports at national and international levels. To this end, the United Nations and other agents might be in a position to give support within the existing limitation of resources (UNPFII, 2016).

4.   Administrative records as a source of disaggregated data

In Latin America, three primary sources exist to obtain data disaggregated by ethnicity and other characteristics. These sources are national population censuses, household surveys and administrative records. There are several ways to define administrative records. The most common definition is "a complete written record with regular entries on elements and details about a particular set of objects" (Economic Commission for Europe, 2011). For this study, administrative records include data collected to meet legal requirements or request public services, data on government decisions and data generated to support the planning, execution and supervision of progress.

Though administrative data seldom serves as direct substitutions for data collected through censuses and sample surveys, it can lower the cost of generating statistics and the burden on survey respondents when used as a source (Asian Development Bank, 2021). In addition, it may be effective because it is collected with less effort, reducing the potential burden laid on respondents while improving the effectiveness and quality of the statistics (Economic Commission for Europe, 2011; Connelly, 2016; Partnership/CEPEI, 2020). The interest in using administrative records for statistical purposes resides in the following qualities:

- More timely data because it is often collected more frequently than other data sources, such as surveys.
- Coverage and continuity of data collection on events that may be of general interest.
- Coverage and geographic disaggregation of records, particularly when they are national in scope.
- Feasible characterisation of the phenomenon given the variables captured, following the thematic coverage confined to the legal jurisdiction of the organisations or agencies that compile the register.
- Possibility to broaden the data collection's conceptual coverage.
- Marginal costs relative to current statistical use (ECLAC, 2021).

The demand for disaggregated data to meet the SDGs and human rights obligations has increased interest in a more robust use of administrative records to generate official statistics. However, difficulties still must be surmounted, such as the lack of standardisation or coverage in data, the limited technical capacity for processing data or legal obstacles that hinder data access by the national statistical agencies (Wallgren and Wallgreen, 2021), (Puyana, 2015). To overcome these difficulties, the United Nations Statistical Division identifies six stages to integrate administrative records into official statistics (see diagram IX.2).

Diagram IX.2
Stages of the integration of administrative records into official statistics

Completing the inventory of all administrative records

Mapping of administrative variables to statistical variables

Mapping of types of administrative entities to statistical variables

Establishing relationships between administrative records

Elaborating statistical records: base statistical records, primary statistical records (directly based on administrative records) and integrated records (derived from primary records)

Linking statistical records microdata and other data sources

Source: Prepared by the author, on the basis of Statistics Division, *Technical Report: Measuring Sustainable Development Goals Indicators Through Population and Housing Censuses and Civil Registration and Vital Statistics Data*, 2018 [online] https://unstats.un.org/unsd/demographic-social/census/documents/tr_on_sdg_in_phc_crvs.pdf.

Box IX.2
Experiences in the use of administrative records for identifying attention gaps during the COVID-19 pandemic

Experiences incorporating ethnicity into censuses and surveys are widely documented (CEPAL, 2014). However, this is different for administrative records and their potential for generating data that may guide public policy. The most noteworthy experiences have occurred in the health sector statistics (Inter-agency and Expert Group on SDG Indicators, 2021).

Unlike other sectors, the health sector widely acknowledges that indigenous ethnicity is a social factor that determines health and longevity (Sandoval and Alvear, 2022). According to a study conducted in 23 countries in 2016, evidence demonstrates that Indigenous individuals show poorer health results and live shorter lives on average compared to the non-Indigenous population. However, the only way to obtain this information is for governments to diligently develop Indigenous data in their surveillance systems (Anderson and others, 2016).

The global health crisis created by COVID-19 disproportionately affected the Indigenous peoples. In some cases, it still poses a critical threat to their survival, besides representing underlying structural inequalities and generalized discrimination. Thus, the Office of the United Nations High Commissioner for Human Rights recommended guaranteeing disaggregated data collection on the infection rate in Indigenous communities (OHCHR, 2020). Not following this recommendation creates a risk that the lack of disaggregated data may exacerbate inequality.

As an example of how administrative data may help learn the impact of the pandemic on Indigenous peoples, a study conducted in Brazil proved how important it is to disaggregate data from administrative records to study the gaps in COVID-19 vaccination, using official epidemiological reports to determine the vaccination coverage of Indigenous individuals over 18 years old. Its analysis demonstrated that vaccination coverage was generally lower among the Indigenous population than in older persons, although both groups were considered priorities in vaccination strategies. It also showed that the reported incidence of COVID-19 was higher among Indigenous groups, despite being a priority of the vaccination programme, suggesting that non-pharmacological interventions to stop COVID-19 from propagating were less effective and poorly implemented among these groups. The study points out that the pandemic exacerbated the structural inequality in health services that affects Brazil's Indigenous peoples and is a testimony to the urgent need for interventions to reduce the disparity.

Brazil: Accumulated COVID-19 incidence rates among Indigenous peoples and the general Brazilian population, 2021
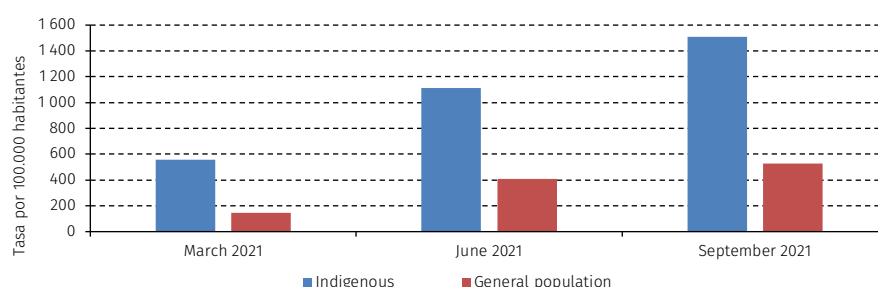
Source: Prepared by the author.

Source: Prepared by the author, on the basis of Economic Commission for Latin America and the Caribbean (ECLAC), *Los Pueblos Indígenas en América Latina: avances en el último decenio y retos pendientes para la garantía de sus derechos* (LC/L.3893), Santiago, 2014; Inter-agency and Expert Group on SDG Indicators, *Compilation of Tools and Resources for Data Disaggregation*, Nueva York, División de Estadísticas de las Naciones Unidas, 2021; I. Anderson and others, "Indigenous and tribal peoples' health (The Lancet-Lowitja Institute Global Collaboration): a population study", *The Lancet*, vol. 388, No.10040, 2016; Office of the United Nations High Commissioner for Human Rights (OHCHR), *COVID-19 and Indigenous Peoples' Rigths,* 2020 [online] https://www.ohchr.org/sites/default/files/Documents/Issues/IPeoples/OHCHRGuidance _COVID19_IndigenousPeoplesRights.pdf; F. Gomez and others, "Tasas de vacunación, incidencia y mortalidad por COVID-19 entre las poblaciones indígenas en comparación con la población general en Brasil: descripción de las tendencias a lo largo del tiempo", *The Lancet Regional Health - Américas*, vol. 13, 100319, 2022.

B. Availability of administrative data disaggregated by indigenous ethnicity in Mexico City

1. Analysis of legal and institutional framework

This section presents the legal background for the topic under study as it stands in Mexico City (hereafter, the City). It includes a description and conceptualisation of the Indigenous population and a review of social policy instruments (social programmes and actions) and the services offered by all branches of the City government, including its boroughs and autonomous agencies. This section also describes the institutional framework for producing standardized disaggregated data from specific identification fields.

a) Mexico City's Indigenous population

Mexico City's Political Constitution and the City's Resident Indigenous Peoples and Communities Act define that those who hold rights as Indigenous peoples are "the historically established townships and resident Indigenous communities, as well as all Indigenous individuals of any age and any situation and condition" (Congreso de la Ciudad de México, 2019, p. 5; Gobierno de la Ciudad de México, 2017, p. 16). No measurement of the Indigenous population of the City meets the above definition. Therefore, the only available estimate comes from the 2020 Census of Population and Housing, which quantified the Indigenous population in a comprehensive questionnaire by counting speakers of an Indigenous language or people identifying as Indigenous.

The instrument included the following questions for individuals of three years old and older: Do you speak an Indigenous language or dialect? Which Indigenous language or dialect do you speak? Do you also speak Spanish? Can you understand any Indigenous language or dialect? Considering your culture, do you consider yourself Indigenous? The questioning sequence appears in diagram IX.3. According to the 2020 Census results, 825,348 people in Mexico City consider themselves Indigenous per their culture. In addition, there are 142,201 speakers of an Indigenous language and 90,129 who can understand it.

Diagram IX.3
Mexico: sequence of survey questions on spoken Indigenous languages and Indigenous self-identification from the 2020 Census of Population and Housing

12	Indigenous language	13	Name of Indigenous language	14	Speaks Spanish

12 — Indigenous language
Does (name) speak an Indigenous dialect or language?

Yes...........
No............

Answer no, go to 15

13 — Name of Indigenous language
Which Indigenous dialect or language does (name) speak?
....
....

14 — Speaks Spanish
Does (name) speak Spanish?

Yes...........
No............

Answer yes or no, go to 16

15 — Comprehension of modern language
Does (name) understand any Indigenous dialect or language?

Yes...........
No............

16 — Self-identification as Indigenous
According to his or her culture does (name), consider him or herself as Indigenous?

Yes...........
No............

Source: Prepared by the author, on the basis of National Institute of Statistics and Geography (INEGI), comprehensive questionnaire of the 2020 Census of Population and Housing, 2020.

b)   Social policy instruments

Since it first elected its government by democratic election in 1997, when it was called the Distrito Federal, Mexico City stands out because it prioritises social policy by assigning growing budgets to implement social programmes. It has also designed and implemented social programmes and actions targeting seniors, girls, boys, teenagers and youngsters, persons with a disability and Indigenous peoples and communities, among other population groups. The City stands on solid legal and institutional ground to achieve this.

The City uses two types of social policy:

- Social Programmes: These programmes stem from the institutional planning of social policy. They aim to guarantee and foster the observance and enjoyment of human, economic, social and cultural rights. Operation rules regulate Social Programmes.

- Social Actions: These actions are all institutional welfare and social development activities. Their nature is contingent, temporary, emergency or casuistic. Operation guidelines regulate Social Actions (Congreso de la Ciudad de México, 2000).

In 2021, the year this study was conducted, 123 social programmes and 32 social actions operated in the City under the local government, boroughs or autonomous agencies (see table IX.2). According to law, every social programme and action has a catalogue of beneficiaries with information about all users. This catalogue provides basic information about the beneficiaries and is published in Mexico City's Official Gazette (Congreso de la Ciudad de México, 2000). The Social Development Act does not require to include indigenous ethnicity among the beneficiaries' information, but its Regulations do.

Table IX.2
Mexico City: social programmes and actions in operation by operating entity, 2021

Type of entity	Social programmes	Social actions
Boroughs	78	23
City government ministries	23	5
Autonomous agencies	22	4
Total	123	32

Source: Prepared by the author, on the basis of Secretaría de Inclusión y Bienestar Social, Social Development Information System of the Government of Mexico City, 2021 [online] http://www.sideso.cdmx.gob.mx.

c)   Services and procedures

When providing services, Mexico City's government strives to increase the population's accessibility and to give people legal certainty. Thus, the City's services and procedures, being of a permanent nature (as they stand on legal and administrative provisions), can substantially contribute to generating administrative data incorporating indigenous ethnicity.

The Regulatory Improvements Act created a catalogue of regulations, procedures and services that is public and obliges all involved institutions. As part of this catalogue, all procedures for the enrolment, modification, updating and unsubscription of any services provided by the government must be filled in online using a standard electronic form (Congreso de la Ciudad de México, 2022).

This form was issued in 2019 by the 2018-2024 administration. The form contains all the essential information the City requires to be eligible for the services it provides (Congreso de la Ciudad de México, 2019). Its 2021 update added other information fields to the personal information section of the form; three were specifically about indigenous ethnicity and used modified questions taken from the 2020 Census.

2.   Statistical information on Indigenous Peoples and data management

a)   Resident Indigenous Peoples and Communities Act

This act, passed in December 2019, articulates the provisions of the City's Constitution on interculturality and Indigenous peoples and communities. Its article 11 identifies those charged with observing, protecting, guaranteeing, promoting and enforcing its contents: the City's congress, government, council, boroughs, autonomous agencies and political parties. Article 12 deals with the obligation to produce statistical information that is culturally relevant (see box IX.3). Article 12 is a satisfactory response to the demands made by international standards on human rights and SDGs for data disaggregation by indigenous ethnicity.

Box IX.3
Article 12 of Mexico City's Resident Indigenous Peoples and Communities Act

- According to the human right to information, Indigenous peoples, townships, communities and individuals have the right to information and data disaggregated by ethnicity regarding their demographic composition, vital statistics and indicators of their economic, health, social and cultural situation.

- The City Government authorities must adopt measures to generate statistics and data broken down by ethnicity in compliance with the principle of a multi-ethnic and multi-cultural City.

- The Digital Agency for Public Innovation and the Institute for Democratic Planning and Prospection must establish effective measures to ensure responsible parties systematically incorporate the ethnic dimension in administrative records, public services formats and their corresponding statistics.

- The authorities must adopt the necessary measures for the Social Welfare System of Mexico City to incorporate the ethnic variable when identifying the population entitled to subsidies, support and aid granted by the City's government. Indicators of the rights of Indigenous peoples in all instruments, procedures, forms and operating rules of social programmes operated by the City must also include ethnicity. The City Government must promote coordination mechanisms with the Federal Government over this issue.

Source: Prepared by the author, on the basis of Congreso de la Ciudad de México, *Ley de Derechos de los Pueblos y Barrios Originarios y Comunidades Indígenas Residentes en la Ciudad de México*, 20 de diciembre de 2019 [online] http://www3.contraloriadf.gob.mx/prontuario/index.php/normativas/Template/ver_mas/66686/31/1/0.

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3. Official technical guidelines for the collection of data among persons that belong to Indigenous communities and peoples

The Digital Agency for Public Innovation (ADIP) was created in 2019 by the Digital Operation and Innovation Act to set the information system guidelines for the City's government and agencies to standardize, process and exploit information. The Agency is able to issue guidelines, best practices and standards for data management. In 2021, the ADIP published technical guidelines for the standardized disaggregation of data collected among persons who belong to Indigenous peoples and communities according to the language they speak or how they describe themselves (hereafter, the Technical Guidelines). The Technical Guidelines' aim is for all the ministries, agencies and bodies of the City's government to homogeneously register the information they gather among Indigenous peoples and communities (Gobierno de la Ciudad de México, 2021).

Paragraph 6 of the Technical Guidelines specifies the following questions to be included in the instrument used for data collection:

- The first question should be: "Do you speak an Indigenous language?" Possible answers are:
  - Yes
  - No
  - Does not know/Did not answer

- If the answer to "Do you speak an indigenous language?" is "yes," then the next question should be: "Which Indigenous language do you speak?" Possible answers are listed in the 2020 Indigenous Language Census of the National Institute of Geography and Statistics (INEGI).[5]

- Whenever applicable, one more question should be asked: "Did someone help you fill in this form because you do not speak Spanish?" The possible answers to this question are:
  - Yes
  - No

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[5] See INEGI (2020).

- To collect information about persons who no longer speak an Indigenous language but can still understand it, the Guidelines include the question, "Do you understand an Indigenous language?" The possible answers to this question are:
  - Yes
  - No

- If the answer to "Do you understand an Indigenous language?" is "yes," then the next question should be: "Which Indigenous language do you understand?" Possible answers are listed in the 2020 Indigenous Language Census mentioned above.

- Finally, the Guidelines establish that one question should be asked to inquire whether a person self-identifies as Indigenous. This question is: "According to your culture, do you consider that you belong to an Indigenous People?" Answers to this question are:
  - Yes
  - No
  - Does not know/Did not answer[6]

The questions and specific identification fields proposed by the Technical Guidelines meet the provisions in the local Constitution and its secondary laws regarding individuals who possess the rights belonging to Indigenous peoples, seeing that the guidelines include criteria on being a speaker of an Indigenous language and self-identification as a member of an Indigenous people. They also coincide with how INEGI gathers information in its instruments for making censuses, which facilitates the comparison of information with INEGI data.

However, there is a sequencing error in the questions established by the Technical Guidelines, which miss a key question on belonging to an Indigenous people. The missing question is: "To which Indigenous people do you belong?" The omission of this question may lead to under-declaration among indigenous persons. To improve data collection among this population, the questions on belonging should come first. Questions regarding being able to speak or understand Indigenous languages should go after, using the national catalogue of Indigenous languages.[7] Cases of individuals who do not speak an Indigenous language or cannot clearly identify which language they speak may be registered if the above question is included. The same applies to people who speak more than one Indigenous language or the language of an Indigenous people other than the one to which they ascribe.

4. Indigenous ethnicity in the guidelines for social programmes and actions

a) Regulatory instruments

This section analyses the Guidelines for Social Programme Operation Rules and the Operation Guidelines for Social Action and how they are implemented. These guidelines establish how a social programme or action should operate to reach its targets within the expected levels of effectiveness, efficiency, equality and transparency (Congreso de la Ciudad de México, 2000).

i) *Social programmes*

The Guidelines for Social Programme Operation Rules (ROP) establish that specific information about the people who access the programmes must be incorporated. They emphasize, among other issues, that the catalogue of beneficiaries must include an ethnicity field, and its publication in the City's official gazette must be mandatory (see table IX.3).

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[6] See Congreso de la Ciudad de México (2019).
[7] See Instituto Nacional de Lenguas Indígenas (2009).

Table IX.3
Mexico City: reference to indigenous ethnicity according to the Guidelines for Social Programme Operation Rules, 2021

Section	Reference
Programmatic alignment	Mention whether the programme considers priority attention groups, including indigenous persons.
Diagnosis	Include, insofar as possible, the ethnicity of the population attended by the programme to identify gaps between Indigenous and non-Indigenous populations.
Dissemination	Indicate that the dissemination methods must correspond to the intended target population and consider the needs of persons with an Indigenous identity.
Requirements and procedures for access	Specify the programme beneficiaries' requirements, which must be appropriate for the target population, including persons with an Indigenous identity.
	Indicate the documents required to prove that the programme requirements are met, process the application or accredit whether the potential beneficiary or person entitled to the services meets eligibility criteria according to the target population (such as persons with an Indigenous identity).
Criteria for integration and unification of a universal catalogue of beneficiaries and individuals entitled to the services	Mention that the entity in charge of the programme will publish the catalogue of beneficiaries in Mexico City's official gazette. The catalogue will indicate personal information, including ethnic affiliation.

Source: Prepared by the author, on the basis of Consejo de Evaluación del Desarrollo de la Ciudad de México, "Aviso por el cual se dan a conocer los lineamientos para la elaboración de las reglas de operación de los programas sociales para el ejercicio 2021", 2020 [online] https://www.evalua.cdmx.gob. mx/comunicacion/nota/lineamientos-para-elaboracion-de-reglas-de-operacion-2021.
Note: The table utilizes the terms for indigenous persons used in the analysed instrument.

Our study analysed the Operation Rules from all 123 programmes implemented in Mexico City in 2021 to identify references to indigenous ethnicity and the terms used to refer to indigenous persons. Of these programmes, 102 included specifications concerning the indigenous ethnicity of the population entitled to the services (82.9%). Most of the programmes that do not mention ethnicity were run by autonomous agencies and boroughs (see table IX.4). The Operation Rules Social Programme has 102 social programmes that include the Indigenous ethnicity of the beneficiaries, frequently this characteristic is included in the programmatic alignment sections or in the catalogue of beneficiaries (see table IX.5). However, this does not occur in Operation Rules used to implement social programmes, such as definitions of physical goals, budget planning or instrumentation procedures.

Table IX.4
Mexico City: indigenous ethnicity in the operation rules of 102 programmes run by different agencies, 2021

Type of entity	Number
Boroughs	66
Ministries	21
Autonomous agencies	15
Total	102

Source: Prepared by the author, on the basis of Secretaría de Inclusión y Bienestar Social, Social Development Information System of Mexico City's Government, 2021 http://www.sideso.cdmx.gob.mx.

Table IX.5
Mexico City: indigenous ethnicity in the operation rules sections of 102 social programmes, 2021

Section	Number of social programmes that include indigenous persons in their operation rules
Programmatic alignment	52
Requirements and procedures for access	35[a]
Definition of the target population	24
Catalogue of beneficiaries	49

Source: Prepared by the author, on the basis of Secretaría de Inclusión y Bienestar Social, Social Development Information System of Mexico City's Government, 2021 http://www.sideso.cdmx.gob.mx.
[a] The criteria for disseminating ten social programmes run by the Gustavo A. Madero borough are included, as well as cases in which indigenous persons are included in the priority attention groups that have preference during the selection process.

The social programme operation rules provide at least 15 ways to identify Indigenous ethnicity. "Persons with an Indigenous identity" is the most common (see image IX.1).

Image IX.1
Mexico City: concept cloud of the terms used to refer to indigenous persons in the Rules of Operation of 102 social programmes, 2021

Source: Prepared by the author based on Secretaría de Inclusión y Bienestar Social, Operation Rules of 102 social programmes of Mexico City, 2021 [online] http://www.sideso.cdmx.gob.mx.

ii) Social actions

The 2021 Operation Guidelines for Social Action specify the minimum mandatory elements that the mentioned regulatory instruments should have (Gobierno de la Ciudad de México, 2021). However, it only mentions indigenous ethnicity in two sections: access requirements and catalogue of beneficiaries. The latter uses the information fields established for the social programme catalogues by the regulations of the Social Development Act (see table IX.6).

Table IX.6
Mexico City: Reference to indigenous ethnicity according to the Operation Guidelines for Social Action, 2021

| Section	Reference
Access requirements	Clearly define the requirements that users or beneficiaries of the social actions must meet. These requirements must be appropriate for the target populations, which include persons with an Indigenous identity.
Catalogue of beneficiaries and service facilitators and/or identification list of users.	Social actions that imply a direct transfer, in money or kind, must create a complete catalogue of beneficiaries. The catalogue's information fields must include ethnicity.

Source: Prepared by the author, on the basis of Gobierno de la Ciudad de México, "Aviso por el que se dan a conocer los lineamientos técnicos para la desagregación homologada de datos recabados de personas pertenecientes a los pueblos y comunidades indígenas según su autoadscripción y condición de habla de lengua indígena, 2021 [online] https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/229f9259cb41a9f935f77f2fd0b1b6a1.pdf.
Nota: En el cuadro se utilizan los términos sobre personas indígenas que se señalan en el instrumento utilizado.
Note: The table uses the terms for indigenous persons indicated in the instrument being used.

References to indigenous ethnicity are limited in the Operation Guidelines for Social Action analysed in this study. Of 32 social actions implemented in 2021, 40.6% (13) includes it, only 15.6% specifies an ethnicity field in the catalogues of beneficiaries, and just 6% includes it in the diagnosis, access requirements or dissemination sections. At least five ways of referring to indigenous ethnicity were identified (see image IX.2).

Image IX.2
Mexico City: concept cloud of the terms used to refer to indigenous persons in the operation guidelines of 13 social actions, 2021
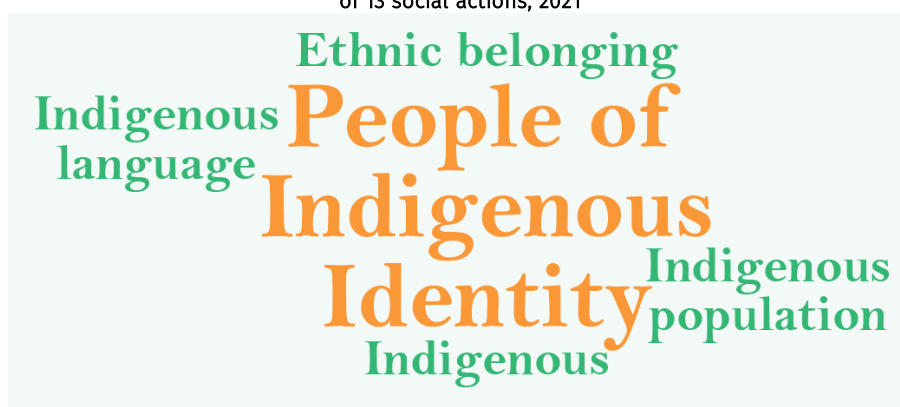
Source: Prepared by the author, on the basis of Secretaría de Inclusión y Bienestar Social, Sistema de Información del Desarrollo Social del Gobierno de la Ciudad de México, 2021 [online] http://www.sideso.cdmx.gob.mx.

iii)   Social programme and action catalogues

Mexico City's Social Development Act and its Regulations ordain that the City must create a unified and organized list for each social programme and social action the public administration operates. Furthermore, these lists must include the personal information of the beneficiaries receiving those services. However, the mandatory fields of those catalogues have had inconsistencies ever since the act was passed. For this study, the most critical inconsistency is that while the Regulations ordain that fields for indigenous ethnicity must be included, the act does not. As a result, the catalogues published by the corresponding information systems year by year omit that information.

Also, the institutions that operate social programmes and actions usually state that it is challenging to insert fields for identifying indigenous ethnicity in the catalogues because they are sensitive personal data protected by federal and local legislation (Cámara de Diputados del H. Congreso de la Unión, 2017; Congreso de la Ciudad de México, 2018).

Therefore, almost all the fields in the catalogues of beneficiaries published on the City's Social Development Information website[8] are limited to the fields made mandatory by the Social Development Act and do not consider indigenous ethnicity even though their Regulations specify that they should. Furthermore, even though some catalogues include indigenous ethnicity (such as that of the Álvaro Obregón borough), they register "none" as data, which can either mean that the programme does not provide services to indigenous persons or that it does not register them.[9] Likewise, the reports on the verification programmes targeting catalogues of beneficiaries and social actions in Mexico City do not document that the indigenous ethnicity field was met, even though since 2016, it was already considered mandatory in all the catalogues that the federal comptroller supervised.

b)   Identification of indigenous ethnicity in the forms used by social programmes and actions

This section analyses the application, registration and operation forms of the City's social programmes and actions. The files of any individuals or collectives that benefit from the services include these forms. Our study examined forms, applications and similar documents from 39 entities of the City's government, equivalent to 59% of the total number of institutions considered by this study: 11 boroughs, 17 ministries[10] and 11 autonomous agencies.

Image IX.3
Mexico City: cloud of terms used for identifying indigenous ethnicity in forms used by social, procedure and services in social programmes and actions, 2021
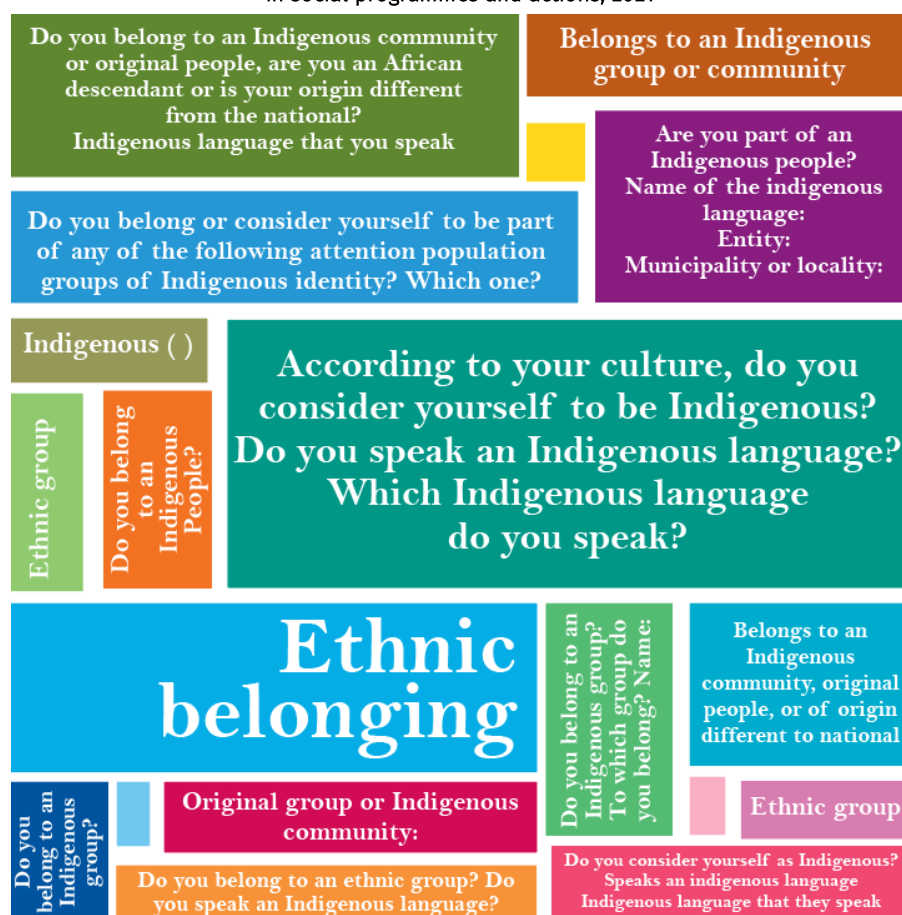
Source: Prepared by the author, on the basis of using application forms and registry forms and systems from social programmes and actions, procedures and services in different political and administrative entities and organisms of Mexico City's Government, 2021.

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[8]   See [online] http://www.sideso.cdmx.gob.mx/?id=80.
[9]   See Alcaldía Alvaro Obregón (2021).
[10]   Including the Legal Counsel and Mexico City's General Justice Attorney.

The analysed documents revealed that the forms used in six boroughs and seven ministries include fields to identify the indigenous ethnicity of indigenous persons. None of the autonomous agencies had this type of field. This practice stands in striking contrast to the previously analysed operation rules and guidelines, proving inconsistencies between regulatory instruments and how information is collected on the persons requesting benefits who are potential beneficiaries of public services. The forms that do record indigenous ethnicity used at least 16 different ways to call it, of which "ethnic affiliation" is most common (see image IX.3).

i)   Boroughs

Six boroughs include fields for indigenous ethnicity in their forms for social programmes and actions. These forms are mostly used to register the applications of potential users. Exceptions include a form to take a census of priority attention groups in the Álvaro Obregón borough and the forms used to gather information for affidavits required by a programme in the Tlalpan borough and by a socioeconomic study made in Xochimilco. In their forms, most of the boroughs include information fields and questions that disaggregate information by Indigenous ethnicity and affiliation. For example, the Tlalpan borough uses five ways to request that information. The application form for a social programme in the Tlalpan borough also includes a question about whether the applicant speaks or understands an Indigenous language (see map IX.1).

Map IX.1
Mexico City: administrative records of social programmes and actions that contain fields for recording indigenous ethnicity by boroughs, 2021
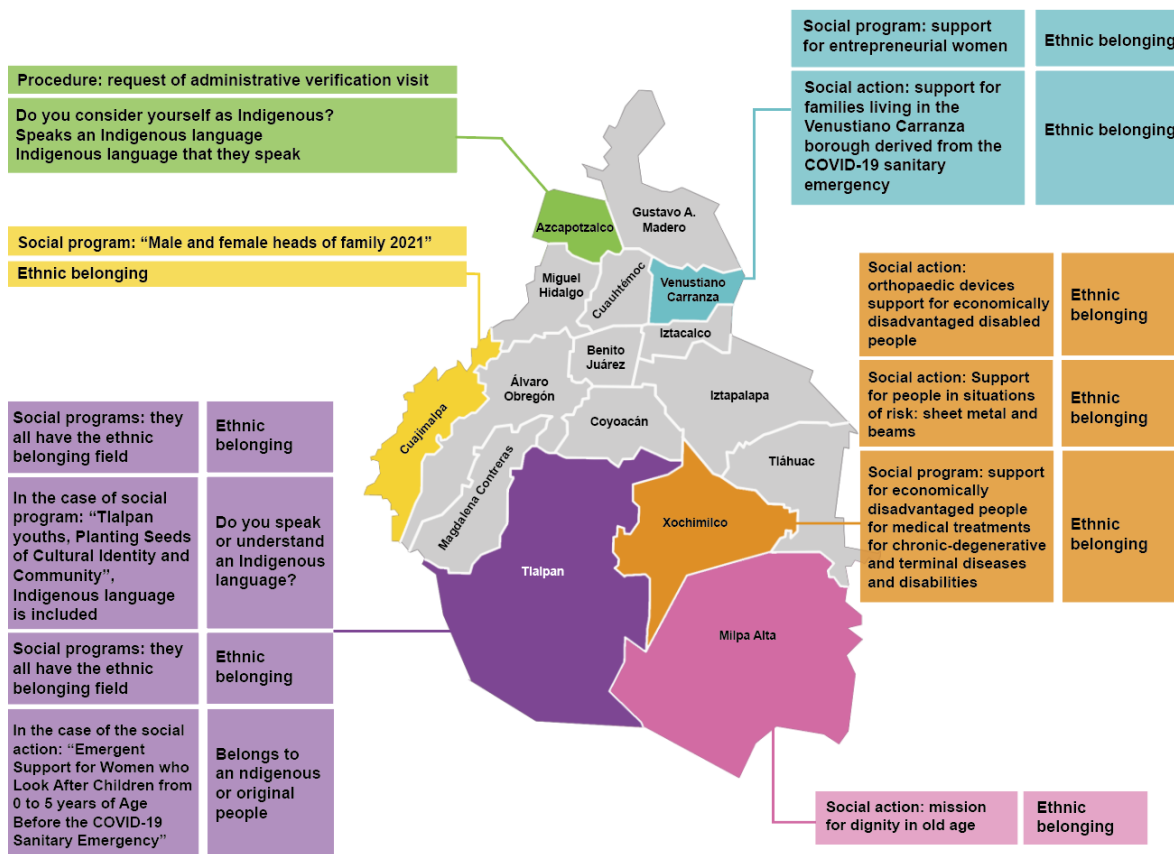
Source: Prepared by the author, on the basis of the formats for social programmes and actions of Mexico City's boroughs.
Note: The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

ii)   Ministries

Seven ministries include fields for indigenous ethnicity in their forms for social programmes and actions. Differences can be found in those institutions, given that they use up to seven different ways to refer to it. For example, some use ethnic affiliation while others use the condition of speaker of a native language. The Ministry of Resident Indigenous Communities (SEPI) combines the fields in the new Standard Form, which includes categories that have already become outdated, such as belonging to a community whose origin is not the national origin (see table IX.7).

Table IX.7
Mexico City: questions or information fields that register indigenous ethnicity in the forms used by different ministries in their social programmes and actions, 2021

Ministry	Type of forms used	Use of form	Type of question or information field	Category of answer
Ministry of Culture	1	Register application	Do you speak an Indigenous language?	Open answer
Ministry of Government	1	Register application	Reasons for submitting Indigenous ()	Selection option
Ministry of Inclusion and Social Welfare	2	Register application	Do you belong to any ethnic group? Do you speak an Indigenous language?	Yes__ No__ Which one?
			Ethnic affiliation	Open answer
Ministry of Women	1	Register application	Ethnic affiliation	Open answer
Ministry of Resident Indigenous Communities	2	Register application	Do you belong to an Indigenous community, an Indigenous people, or do you have any other ethnicity other than the national ethnicity?	Which one? Yes__ Partly__ No__ Does not know__
			According to your culture, do you consider that you belong to an Indigenous people?	Yes__ No__
			Do you speak an Indigenous language?	
			Which Indigenous language do you speak?	
Ministry of Public Security	1	Register application	According to your culture, do you consider that you belong to an Indigenous people?	Yes__ Partly__ No__ Does not know__
			Do you speak an Indigenous language?	Yes__ No__
			Which Indigenous language do you speak?	Open answer
Ministry of Labour and Employment	1	Register application	Do you belong to any Indigenous group?	Open answer

Source: Prepared by the author, on the basis of forms for social programmes and actions of Mexico City's government ministries.

c)   Identification of indigenous ethnicity in the forms used in government procedures and services

The Azcapotzalco, Coyoacán and Gustavo A. Madero boroughs use application forms that include fields for indigenous ethnicity in their procedures and services. Azcapotzalco uses the most updated version of the Standard Form (see table IX.8). Six Ministries use application forms with fields for indigenous ethnicity in their procedures and services. Most apply the updated version of the Standard Form. Exceptions are the Ministry of Inclusion and Welfare (SIBISO) and the Ministry of Women (SEMUJERES), which use up to four different forms with varying categories and terms (see table IX.9).

Table IX.8
Questions or information fields that register indigenous ethnicity in the forms of social programmes and actions of Mexico City's boroughs, 2021

Borough	Type of form used	Use of form	Type of question or information field	Answer categories
Azcapotzalco	1	Procedure application	Do you consider yourself Indigenous?	Yes/No
			Speaker of Indigenous language	Yes/No
			Indigenous language spoken	Open answer
Coyoacán	1	Procedure application	Ethnicity	Open answer
Gustavo A. Madero	15	Procedure application	According to your culture, do you consider yourself Indigenous?	Yes__ Partly__ No__ Does not know___
			Speaker of Indigenous language	Yes__ No__
			Indigenous language spoken	Which Indigenous language do you speak?

Source: Prepared by the author, on the basis of forms for procedures and services of Mexico City's boroughs.

Table IX.9
Questions or information fields that register indigenous ethnicity in the forms used by the social programmes and actions of different ministries in Mexico City, 2021

Ministry	Type of form used	Use of form	Type of question or information field	Answer categories
Ministry of Economic Development	1	Procedure application	According to your culture, do you consider that you belong to an Indigenous people?	Yes__ Partly__ No__ Does not know__
			Do you speak an Indigenous language?	Yes__ No__
			Which Indigenous language do you speak?	Open answer
Ministry of Urban Development and Housing	1	Procedure application	According to your culture, do you consider that you belong to an Indigenous people?	Yes__ Partly__ No__ Does not know__
				Yes__ No__

Ministry	Type of form used	Use of form	Type of question or information field	Answer categories
			Do you speak an Indigenous language? Which Indigenous language do you speak?	Open answer
Ministry of Inclusion and Social Welfare	3	Procedure application	Ethnic group	Open answer
		Procedure application	Affiliated with an Indigenous group To which Indigenous group do you belong?	Yes/No Name:
		Socioeconomic information document	You belong and/or affiliate yourself with one of the following attention groups: Indigenous identity	Which one?
Ministry of Women	4	Applicant's information document	Ethnic affiliation	Open answer
		Procedure application	Do you belong to an Indigenous people?	Yes/No Which one?
		Applicant's information document	Indigenous group or community:	Open answer
		Applicant's information document	Affiliated with an Indigenous group or community	Yes/No
Ministry of Mobility	1	Procedure application	According to your culture, do you consider that you belong to an Indigenous people? Do you speak an Indigenous language? Which Indigenous language do you speak?	Yes__ Partly__ No__ Does not know__ Yes__ No__ Open answer
Ministry of Tourism	1	Procedure application	According to your culture, do you consider that you belong to an Indigenous people? Do you speak an Indigenous language? Which Indigenous language do you speak?	Yes__ Partly__ No__ Does not know__ Yes__ No__ Open answer

Source: Prepared by the author, on the basis of forms for procedures and services of Mexico City's ministries.

Two autonomous agencies use application forms for indigenous ethnicity in their procedures and services (see table IX.10).

Table IX.10
Questions or information fields that register indigenous ethnicity in the forms of social programmes and actions in Mexico City's autonomous agencies, 2021

Ministry	Type of form used	Use of form	Type of question or information field	Answer categories
Transportation Regulation Agency	1	Procedure application	Ethnicity	Open answer
System for Integrated Family Development	2	Procedure application	Ethnic group?	Open answer

Source: Prepared by the author, on the basis of forms for procedures and services of Mexico City's autonomous agencies.

Box IX.4
Identification of indigenous persons in the administrative records of priority sectors

Public administration has programmes that continuously and permanently generate personal data and are a priority for the human rights of the Indigenous peoples. Health and access to justice are among such priorities.

Our study analysed documentation registering the vital information records of individuals: birth certificates, marriage certificates, certificates of existence or cessation of concubinage, administrative divorce-spousal societies, registry of certificates issued by foreign countries, birth certificates with new gender identities and death certificates. None of these forms included a field for indigenous ethnicity, either by spoken language or self-identification.

Health

The right to health of indigenous persons must first be acknowledged to be guaranteed. Specific actions and measures can then be taken, considering the economic, social, sanitary and cultural circumstances that impact their health and emphasizing timely and pertinent access to quality health services.

Mexico City's legislation recognizes the right of indigenous persons to receive health benefits from an intercultural and gender perspective. It also acknowledges their right to receive services compatible with their health practices, including traditional Indigenous medicine and the services provided by medicine men and midwives, according to their world view of health and healing. However, health records are quite heterogeneous when it comes to capturing indigenous ethnicity, as in other areas of public administration.

Mexico City: fields for capturing Indigenous identity in health records, 2021

Document	Fields for capturing indigenous ethnicity
Birth certificate	Includes fields about the Indigenous condition of the mother or pregnant woman with the following questions: Do you consider yourself Indigenous? Do you speak an Indigenous language?
Death certificate	Captures information about the deceased individual with this question: Did the deceased speak an Indigenous language?
Certificate of stillbirth	The mother is asked a question: Do you speak an Indigenous language?
Epidemiological study for a case of illness suspected to be caused by 2019n COV (SARS-CoV-2)	Includes fields about Indigenous condition with the following questions: Do you consider yourself Indigenous? Do you speak an Indigenous language?

Source: Prepared by the author, on the basis of corresponding forms.

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Access to justice

Access to justice for Indigenous peoples and persons implies their access to linguistic and cultural rights, which poses additional challenges for the authorities charged with enforcing and applying the law. Accordingly, these authorities must make reasonable adjustments to meet such challenges.

Under its Constitution, Mexico City is undergoing a process of deep institutional reform that incorporates a new model for applying justice. In this model, the local Constitution grants the public prosecutor (*ministerio público*) autonomy and charges the general attorney (*fiscalía*) with investigating crimes that fall under its jurisdiction and with standing as a prosecutor in the courts of law (Carreón, 2021).

The transition from the previous institution (*Procuraduría*) to a general attorney required re-engineering the institutional, administrative and procedural aspects of new administrative units, particularly in the early stages of the application of justice. It was necessary to implement information mechanisms and systems that make information more traceable, from the first contact the public makes with the public prosecutor to when the prosecutor determines the legal status of each case.

A system for coordinated procedural actions (FSIAP) has been in use since 2015. This system, which collects information on individuals involved in criminal cases, includes specific fields that disaggregate data by indigenous ethnicity based on ethnolinguistic criteria that, to identify a speaker's variant of a specific language, are complemented by a question about the Indigenous community or group to which an individual is affiliated. This early identification is subject to other questions asked by the public servant with whom first contact is made. The system does not allow any updates or corrections to any omissions or mistakes made at the beginning of the process. Nevertheless, the records generated by this system are considerable progress that helps due diligence, providing public servants with elements that allow them to give appropriate attention to indigenous persons, mainly when they contain information collected at first contact.

A new system is being tested to substitute the current one. This new integrated justice information system (SIIJ) will incorporate specific and updated information fields for information that identifies persons who belong to population groups entitled to priority attention, such as indigenous persons, for whom the system includes specific questions about Indigenous self-identification.

Mexico City's prison system has used processes to specifically identify, register and attend to indigenous persons. It has shown a growing interest in updating its criteria, forms and fields to identify persons when they enter correctional facilities.

When a person declares themself Indigenous, instruments send individuals to a specific area for vulnerable population groups. The area depends on the interdisciplinary department coordinating specific actions to attend to indigenous persons. In addition, indigenous persons are given a special form for the timely detection of priority Indigenous populations. The form asks whether they speak an Indigenous language, self-identify as Indigenous, affiliate with an Indigenous people and, interestingly, whether they reproduce the cultural practices of the people to which they belong.

Source: Prepared by the author, on the basis of H. Carreón Perea, "Claves para consolidar un nuevo modelo de procuración de justicia en la Ciudad de México", *Figuras procesales en el sistema penal acusatorio, Ciudad de México, Instituto Nacional de Ciencias Penales (INACIPE), 2021 y* entrevistas a informantes clave, Ó. Báez Soto, E. Martínez Bastida y J. Fernández de Cevallos y Torres.

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C. Conclusions and recommendations

There is a widespread international consensus about the need to produce data disaggregated by indigenous ethnicity. Administrative records could become a valuable source of such data to meet international legal obligations and political commitments. Even with some limitations, they could be improved and integrated into national statistics that measure inequality, especially concerning the most disadvantaged groups.

Our case analysis was Mexico City, which defines itself as multi-ethnic due to the many Indigenous peoples and communities residing there, as acknowledged by the local Constitution and several pieces of legislation. Also, the City assigns a growing portion of its budget to its social policies and even increased its social programmes and actions, numbered 123 and 32, respectively, in 2021. Besides falling under the Social Development Act and its Regulations, specific legal standards (operation rules and operation guidelines) regulate the design of those programmes and actions.

The City requires all public administration authorities and entities to adopt permanent standardized and homogeneous measures to incorporate indigenous ethnicity in administrative records systematically. This mandate allows the authorities to improve surveillance and evaluation of the fulfilment of the rights of Indigenous peoples. The City has also developed technical guidelines for the

standardized disaggregation of data on its Indigenous population. These guidelines, which consider self-identification and the condition of an Indigenous language speaker, are a base for future work. For all these reasons, Mexico City leads the way on this issue in the country and the whole region. Our study identifies areas of opportunity to harmonize legislation, guaranteeing an appropriate institutional and operational environment where administrative records can become a helpful tool to make the problems and needs of indigenous persons and communities visible and to make the investments needed to reduce inequality gaps. We present the following specific recommendations:

- Identification and quantification of Mexico City's Indigenous population
  - Update the diagnoses and studies on quantifying and identifying Mexico City's Indigenous population using the general and disaggregated results of the comprehensive questionnaire used in the 2021 INEGI Census of Population and Housing.
- Updating and harmonisation of legal and regulatory frameworks
  - Harmonize legislation on the management of data related to welfare, evaluation, budgeting and planning policies to guarantee the specification of criteria, methods, time frames and persons in charge in all issues regarding the standardized disaggregation of data and information.
  - Harmonize the Social Development Act and its Regulations, particularly the provisions for mandatory information fields in the integrated catalogues of beneficiaries published by government entities.
  - Standardize the criteria to disaggregate data by indigenous ethnicity used to produce the social programme operation rules and the social action operation guidelines. The rules and guidelines should include the mechanisms and procedures by which their observance is enforced.
  - Create and publish standards, criteria and documents that establish checklists and rules to produce the application forms used in social programmes and actions. They should consider specific mechanisms and procedures for their validation and evaluation. Mexico City's bodies that plan and evaluate urban development could include them in the methodologies and procedures used to approve social actions.
  - Generate specific guidelines and standards that normalize, systematize and generalize the verification process of catalogues of beneficiaries, emphasizing the inclusion of fields that capture indigenous ethnicity, as currently ordained by the Regulations of the Social Development Act.
- Coordination between institutions
  - Promote coordination between government agencies and entities charged with significant tasks associated with designing and implementing new standards and policies regarding the disaggregation of data by indigenous ethnicity. Some such agencies are the Digital Public Innovation Agency, the Board of Evaluation, the Ministry of Indigenous Rights, the Democratic and Prospective Planning Institute of Mexico City and the Urban Planning Committee of Mexico City, through their Technical Secretariat.
  - Launch training and sensitisation programmes targeted at public servants managing, executing and planning data management in the agencies and bodies of Mexico City's government and its boroughs that operate social programmes and actions and handle procedures and services.
- Questions to identify and fields to capture indigenous ethnicity in administrative records
  - Design questions regarding indigenous ethnicity and their corresponding information fields based on internationally accepted recommendations and good practices concerning identification fields.
  - Update technical guidelines to adjust the sequence and form of the specific structures, questions and fields.
  - Generate specific manuals, guidelines and standards to implement the new technical guidelines.

Bibliography

ACNUDH (Office of the United Nations High Commissioner for Human Rights) (2020), "COVID-19 and Indigenous Peoples' Rigths" [online] https://www.ohchr.org/sites/default/files/Documents/Issues/IPeoples/OHCHRGuidance_COVID19_IndigenousPeoplesRights.pdf.

_____ (2018a), _A Human Rights Based Approach to Data - Leaving No One Behind in the 2030 Agenda for Sustainable Development. Guidance Note to Data Collection and Disaggregation_, Geneva.

_____ (2018b), _International Human Rights Standards and Recommendations Relevant to the Disaggregation of SDG Indicators_, Ginebra, OHCHR Working Document.

Acosta, L. and B. Ribotta (2022), "Visibilidad estadística y mecanismos participativos de los Pueblos Indígenas en América Latina: avances y desafíos", _Project Documents_ (LC/TS.2021/18), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).

Alcaldía Álvaro Obregón (2021), _Padrones de beneficiarios de acciones sociales 2021_, Mexico City.

Anderson, I. and others (2016), "Indigenous and tribal peoples' health (The Lancet-Lowitja Institute Global Collaboration): a population study", _The Lancet_, vol. 388, No. 10040.

Asian Development Bank (2021), _Practical Guidebook on Data Disaggregation for The Sustainable Development Goals_ [online] https://www.adb.org/publications/guidebook-data-disaggregation-sdgs.

Axelsson, P. (2018), "Official statistics and Indigenous People: the state of play and recent developments".

Cámara de Diputados del H. Congreso de la Unión (2017), _Ley general de protección de datos personales en posesión de sujetos obligados_ [online] https://www.diputados.gob.mx/LeyesBiblio/pdf/LGPDPPSO.pdf.

Carreón Perea, H. (2021), "Claves para consolidar un nuevo modelo de procuración de justicia en la Ciudad de México", _Figuras procesales en el sistema penal acusatorio, Mexico City_, Ó. Báez Soto, E. Martínez Bastida and J. Fernández de Cevallos y Torres, Instituto Nacional de Ciencias Penales (INACIPE).

CAT (Committee Against Torture) (2008), _Observación General Núm. 2: Aplicación del artículo 2 por los Estados Parte_ (CAT/C/GC/2), Geveva, United Nations [online] https://www.ohchr.org/es/documents/general-comments-and-recommendations/catcgc2-general-comment-no-2-2008-implementation.

CEDAW (Committee on the Elimination of Discrimination Against Women) (2012), _Concluding observations of the Committee on the Elimination of Discrimination against Women_ (CEDAW/C/BRA/CO/7), Brazil, Geneva, March 23.

_____ (2010), _Concluding observations of the Committee on the Elimination of Discrimination against Women_ (CEDAW/C/PAN/CO/7), Panama [online] https://www.acnur.org/fileadmin/Documentos/BDL/2010/7807.pdf.

CESCR (Committee on Economic, Social and Cultural Rights) (2009), _Observaciones finales para Brasil_, United Nations.

CHR (Commission on Human Rights) (1996), _Documento de trabajo de la Presidenta-Relatora, Sra. Erica-Irene A. 1/Daes, sobre el concepto de "Pueblos Indígenas"_ (E/CN.4/Sub.2/AC.4/1996/2), New York.

CPRD (Committee on the Rights of Persons with Disabilities) (2016), _Observaciones finales sobre el informe inicial de Chile_ (CRPD/C/CHL/CO/1), Geneva, United Nations.

_____ (2013), _Observaciones finales sobre el informe inicial del Paraguay_ (CRPD/C/PRY/CO/1), Geneva.

Committee on the Rights of the Child (2009), _General Comment No. 11 (2009), Indigenous children and their rights under the Convention_ (CRC/C/GC/11), Geneva.

Congreso de la Ciudad de México (2022), _Ley de mejora regulatoria para la Ciudad de México_ [online] https://www.congresocdmx.gob.mx/media/documentos/2d7b855efa97f397a5ad80d00f8a3809385a4666.pdf.

_____ (2019), _Ley de derechos de los pueblos y barrios originarios y comunidades indígenas residentes en la Ciudad de México_ [online] http://www3.contraloriadf.gob.mx/prontuario/index.php/normativas/Template/ver_mas/66686/31/1/0.

_____ (2018), _Ley de protección de datos personales en posesión de sujetos obligados de la Ciudad de México_ [online] https://www.congresocdmx.gob.mx/media/documentos/a8b6a4657686ea6f01e7a024377b814e0664d634.pdf.

_____ (2000), _Ley de desarrollo social para el Distrito Federal_, última reforma publicada en la Gaceta Oficial de la Ciudad de México, 21 February 2018 [online] https://congresocdmx.gob.mx/archivos/transparencia/LEY_DE_DESARROLLO_SOCIAL_PARA_EL_ DISTRITO_FEDERAL.pdf.

Connelly, R. (2016), "The role of administrative data in the big data revolution in social science research", _Social Science Research_, vol. 59.

Consejo de Evaluación del Desarrollo de la Ciudad de México (2020), "Aviso por el cual se dan a conocer los lineamientos para la elaboración de las reglas de operación de los programas sociales para el ejercicio 2021" [online] https://www.evalua.cdmx.gob.mx/comunicacion/nota/lineamientos-para-elaboracion-de-reglas-de-operacion-2021.

Danish Institute for Human Rights (2018), *The Human Rights Guide to the Sustainable Development Goals* [online] http://sdg.humanrights.dk/en.

_____(2020), "The Impact of COVID-19 on indigenous peoples, *Policy Brief,* No. 70, New York.

División de Estadísticas (2020), *Technical Report: Measuring Sustainable Development Goals Indicators Through Population and Housing Censuses and Civil Registration and Vital Statistics Data* [online] https://unstats.un.org/unsd/demographic-social/census/documents/tr_on_sdg_in_phc_crvs.pdf.

_____(2018), *Use of administrative data for official statistics: The Global Perspective. International Workshop on Sustainable Development Goal Indicators,* Beijing [online] https://unstats.un.org/sdgs/files/meetings/sdg-inter-workshop-june-2018/Day2_Session3_Adm%20Data_UNSD.pdf.

_____(2017), *Principles and Recommendations for Population and Housing Censuses: Revision 3* (ST/ESA/STAT/SER.M/67/Rev.3), Nueva York.

ECE (Economic Commission for Europe) (2011), *Using Administrative and Secondary Sources for Official Statistics. A Handbook of Principles and Practices* (ECE/CES/13), New York and Geneva [online] https://unece.org/fileadmin/DAM/stats/publications/Using_Administrative_Sources_Final_for_web.pdf.

ECLAC (Economic Commission for Latina America and the Caribbean) (2021), *Documento metodológico para el aprovechamiento estadístico de registros administrativos económicos*, Santiago.

_____(2014), *Los Pueblos Indígenas en América Latina. Avances en el último decenio y retos pendientes para la garantía de sus derechos* (LC/L.3893), Santiago.

ECLAC/PAHO/UNFPA (Economic Commission for Latina America and the Caribbean/Pan American Health Organization/United Nations Population Fund) (2021), Seminario Regional "La inclusión de Pueblos Indígenas y afrodescendientes en los sistemas de información en salud en el marco de la pandemia por COVID-19" [online] https://www.cepal.org/es/eventos/seminario-regional-la-inclusion-pueblos-indigenas-afrodescen
diente-sistemas-informacion-0.

Gobierno de la Ciudad de México (2021), "Aviso por el que se dan a conocer los lineamientos técnicos para la desagregación homologada de datos recabados de personas pertenecientes a los pueblos y comunidades indígenas según su autoadscripción y condición de habla de lengua indígena" [online] https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/229f9259cb41a9f935f77f2fd0b1b6a1.pdf.

_____(2019), "Política de gestión de datos de la Ciudad de México", Gaceta Oficial de la Ciudad de México [online] https://data.consejeria.cdmx.gob.mx/portal_old/uploads/gacetas/7d8d56fb8e1363f23e7885355a8ab908.pdf.

_____(2017), *Constitución Política de la Ciudad de México* [online] https://www.scjn.gob.mx/sites/default/files/justicia_constitucional_local/documento/2020-01/118922.pdf.

Gómez, F. and others (2022), "Tasas de vacunación, incidencia y mortalidad por COVID-19 entre las poblaciones indígenas en comparación con la población general en Brasil: descripción de las tendencias a lo largo del tiempo", *The Lancet Regional Health - Américas,* vol. 13, No. 100319.

Human Rights Commission of New Zealand (2012), *A fair go for all? Addresssing Structural Discrimination in Public Services* [online] https://www.hrc.co.nz/files/2914/2409/4608/HRC-Structural-Report_final_webV1.pdf.

HRC (Human Rights Council) (2014), *Informe de la Relatora Especial sobre los derechos de los Pueblos Indígenas, Victoria Tauli Corpuz.*

INEGI (National Institute of Statistics and Geography) (2020), Censo Nacional de Población y Vivienda 2020, México [online] https://www.inegi.org.mx/programas/ccpv/2020/#Microdatos.

Instituto Nacional de Lenguas Indígenas (2009), *Catálogo de las lenguas indígenas nacionales: variantes lingüísticas de México con sus autodenominaciones y referencias geoestadísticas* [online] https://site.inali.gob.mx/pdf/catalogo_lenguas_indigenas.pdf.

Inter-agency and Expert Group on SDG Indicators (2021), *Compilation of Tools and Resources for Data Disaggregation,* New York, United Nations Statistical Division (UNSD).

Partnership, G. G. and CEPEI (2020), *Intercambio de experiencias entre América Latina y El Caribe y África sobre registros administrativos,* Mexico City.

Pelletier, P. (2014), *La "discriminación estructural" en la evolución jurisprudencial de la Corte Interamericana de Derechos Humanos,* San José, Costa Rica, Inter-American Institute of Human Rights (IIHR).

Puyana, A. (2015), "Desigualdad horizontal y discriminación étnica en cuatro países latinoamericanos: notas analíticas para una propuesta de políticas", *serie Estudios y Perspectivas,* No. 161 (LC/MEX/L.1174), Mexico, Economic Commission for Latin America and the Caribbean (ECLAC).

Sandoval, M. and M. Alvear (2022), "Death certificate: the urgent consideration of ethnic and racial origin in Chile", *The Lancet Regional Health Americas,* vol. 16.

Secretaría de Inclusión y Bienestar Social (2021), Sistema de Información del Desarrollo Social del Gobierno de la Ciudad de México [online] http://www.sideso.cdmx.gob.mx.

UNFPII (Permanent Forum on Indigenous Issues) (2016), *Los Pueblos Indígenas y la Agenda 2030* [online] https://www.un.org/esa/socdev/unpfii/documents/2016/Docs-updates/SPANISH_Backgrounder_2030 _Agenda.pdf.

_____(2004), *Report of the Workshop on Data Collection and Disaggregation for Indigenous Peoples* (E/C.19/2004/2), Nueva York.

United Nations (2014), *Resolución 68/261. Principios fundamentales de las estadísticas oficiales*, Aprobada por la Asamblea General el 29 de enero de 2014 (A/RES/68/261), New York.

_____(2009), *Compilation of guidelines on the form and content of reports to be submitted by states parties to the international human rights treaties* (HRI/GEN/2/Rev.6), New York, United Nations.

_____(1948), Universal Declaration of Human Rights, New York.

Wallgren, A. and B. Wallgreen (2021), *Toward an Integrated Statistical System Based on Registers*, Washington, D.C., Inter-American Development Bank (IDB).
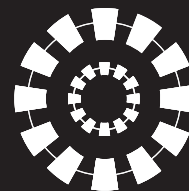
NEW
NARRATIVES
for rural transformation

In this book, those who search for an equitable and sustainable future will find a valuable collection of methodological proposals, case analyses and recommendations for varied aspects of development. This book is an indispensable tool for decision-makers, researchers, development professionals and anyone interested in inequality issues. When diving into its pages, readers will discover a comprehensive approach based on evidence and endorsed by the experience and knowledge of experts. The book addresses topics ranging from poverty and income inequality to social protection, agriculture, energy, innovation, productivity and investment. It pays special attention to inequality gaps to understand them more fully and precisely.

The groundbreaking research included in this book springs from the New Narratives for Rural Transformation in Latin America and the Caribbean project implemented by the Mexico City Subregional Headquarters of the Economic Commission for Latin America and the Caribbean (ECLAC). The International Fund for Agricultural Development (IFAD) funded this book.